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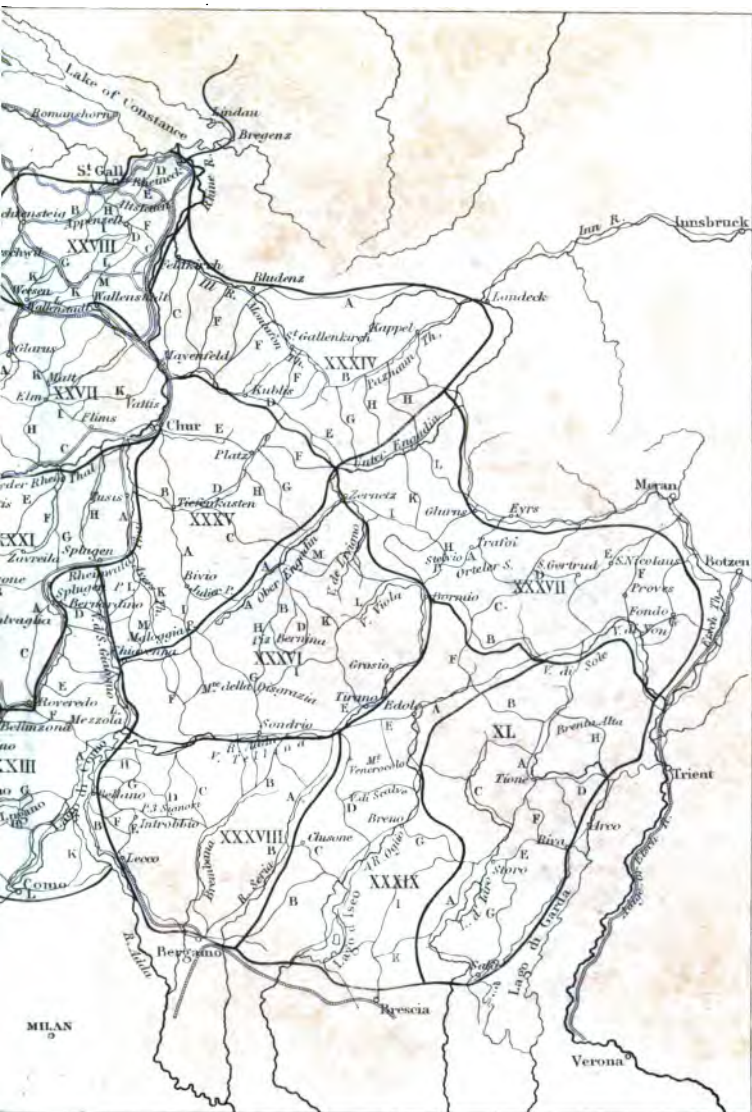
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*BALL'S ALPINE GUIDES*

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# EAST SWITZERLAND

INCLUDING

THE ENGADINE AND LOMBARD VALLEYS

BY

JOHN BALL, F.R.S., M.R.I.A., F.L.S., &c.

LATE PRESIDENT OF THE ALPINE CLUB



LONDON

LONGMANS, GREEN, AND CO.

1873

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## LIST OF MAPS.

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## ABBREVIATIONS AND EXPLANATIONS.

The following are the chief abbreviations used in this work:—

hrs., m.—for hours and minutes. When used as a measure of distance, one hour is meant to indicate the distance which a tolerably good walker will traverse in an hour, clear of halts, and having regard to the difficulty of the ground. In cases where there is a considerable difference of height, the measure given is intended as a mean between the time employed in ascending and descending, being greater in the one case and less in the other.

ft., yds.—for feet and yards. The heights of mountains, &c., are given in English feet above the level of the sea, and are generally indicated in the manner usual in scientific books, by the figures being enclosed in brackets, with a short stroke.

m.—for mile. Unless otherwise expressed, distances are given in English statute miles.

rt., l.—for right and left. The right side of a valley, stream, or glacier, is that lying on the right hand of a person following the downward course of the stream.

The points of the compass are indicated in the usual way.

Names of places are referred in the Index to the pages where some useful information respecting them is to be found.

Throughout this work the reader is frequently referred for further information to the Section and Route where this is to be found. When the reference is made to a passage occurring in the same Section, the Route alone is mentioned.



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THE main divisions of the Alps were in early times established in a vague and general manner, no need being

felt for fixing accurate limits between them, and the knowledge of their topography being too limited to enable

geographers to do so. Modern writers, in attempting to define such limits, have not been guided by the same criteria, and have consequently arrived at different results. In the present work, the effort has been made to base a general arrangement mainly upon the natural relations of the mountain groups and the principal valleys, the author being well aware that such an arrangement cannot always be brought into accordance with those suggested to other writers by ancient or modern political boundaries, or by the ethnographic relations of the population, or by purely geological considerations.

The most remarkable feature in the general orography of the Alps is the great breach in the continuity of the chain which is marked by the valley of the Adige. A traveller following that river from Verona to Botzen, where its eastern branch—the Eisack—joins the main stream, and then mounting gradually along the latter, arrives at a chain of small lakes forming the natural source of the river, the highest and most northerly of which is less than 5 m. from the main channel of the Inn. From the same plateau, and separated by no perceptible height of land, a stream descends to the Inn, at the point where that river enters the defile of Finstermünz. It is a singular fact, that the Eisack, or eastern branch of the Adige, should be connected with the valley of the Inn by another depression, a few feet deeper than that of the lakes of the Adige, giving passage to the Brenner road. Everywhere else in the circuit extending from the Mediterranean to the Adriatic, the Italian peninsula is girdled by one or more alpine ranges, and is accessible only by passes that oppose a more or less serious barrier to free communication; but, as has been seen, the main valley of the Tyrol commands access to the S. side of the Alps by two passages that may best be described as breaks in the continuity of the alpine chain.

This is not the place to point out the vast results that have ensued from this

peculiarity in the form of the Alps. It is not too much to say, that the destinies of all Europe, and of Italy in particular, have been for the last 1,500 years, and are still at the present time, profoundly influenced by the conditions here pointed out.

Although the Brenner (4,588') be somewhat the lower of the two openings between the Inn and the Adige, it has more the character of a pass than that connecting the main branch of the Adige with the Inn, which is 4,596 ft. above the sea. This must be considered the natural limit towards the E. of the Rhætian Alps, and it seems impossible to follow the example of those geographers who include under that designation the Cetzthal Alps and Stubayer Ferner, lying between the sources of the Adige and the Eisack. Neither does it appear desirable to include as a portion of the Rhætian chain the ranges S. of the Adda and the Tonale Pass, described in the next chapter under the designation of Lombard Alps. These are separated for exactly the same reasons that determine the distinction generally admitted between the Graian and the Pennine Alps, or that between the Cottian chain and the Alps of Dauphiné.

Restricted to their natural orographic limits, the Rhætian Alps to be described in the present chapter, are bounded on the W. by the valley of the Rhine and the Splügen road from Feldkirch to Colico; to the S. by the Val Tellina, the road of the Tonale, and the valleys of Sole and Non, from Colico to San Michele near Trent; to the E. by the Adige from San Michele to its source, and then by the Finstermünz road along the Inn to Landeck; and finally the northern limit is marked by the road of the Vorarlberg from Landeck to Feldkirch. Thus limited, the Rhætian Alps evidently belong to the same great system as the Pennine and Bernese chains. They are traversed by a great valley, nearly parallel to those of the Rhone and Vorder Rhein, through

which the Mera descends to Chiavenna; and the far greater stream of the Inn, the principal source of the Danube, flows in a nearly direct course from the Maloya Pass to Prutz in the Tyrol. On the N. side of this main valley a continuous range extends from the Pizzo Stella above Chiavenna to the Schönjöchlberg by Prutz. On the S. side of the main valley lie two considerable groups that include the highest peaks of the Rhætian Alps, but do not form a well-defined chain. Of these the best known to English travellers is the group of the Bernina Alps (§ 36), which has of late attracted many visitors. The Orteler group, still more attractive in the writer's opinion, though now pretty fully explored, was almost unknown a few years ago; and the ranges N. of the Engadine have been, until very lately, completely neglected by our countrymen. One reason that has withheld travellers from many of the districts here referred to, is the fact that they are divided between different States. With the important exception of the Engadine, all the valleys running eastward from these Alps belong to Austria, to which state also appertains the valley of the Ill, opening into the Rhine valley at Feldkirch. The Adda and its tributaries, with the exception of the Swiss valley of Poschiavo, has been united since 1859 to the kingdom of Italy. The remainder of the territory here defined, saving the petty principality of Lichtenstein, and other still more trifling exceptions, forms part of the Canton Grisons. The languages spoken within these limits are German, Romansch, and Italian; but as a general rule, a stranger may always find some one able to speak either German or Italian.

## SECTION 34.

## PRÄTTIGAU DISTRICT.

As stated in the introduction to this chapter, the main valley of the Rhætian Alps is guarded on the N. side by a continuous range, extending from the neighbourhood of Chiavenna to that of Landeck in the Tyrol, a distance rather exceeding 80 m. in a direct line. From this range, most of whose summits lie between 10,000 and 11,000 ft., a considerable secondary ridge extends at right angles, nearly 40 m. towards the NW., forming the frontier between the Austrian province of Vorarlberg and the Grisons valley of Prättigau. The NW. extremity of the secondary ridge above mentioned is known as the *Rhætikon*. The group of peaks passing under this collective name culminates in the Scesa Plana (9,738'). The higher group, lying at the junction of the NW. range with the main range extending NE. into the Tyrol, is distinguished as that of the Fermunt, or *Silvretta Alps*. The most natural division of the great mass of alps lying between the Inn, the Rhine, and the Vorarlberg, is that marked by the Prättigau valley and the Vereina Pass connecting it with Süs in the Engadine. It is the portion lying N. and E. of that boundary that is included in the present section under the name Prättigau District. Few portions of the Alps are less known to strangers, and the writer is forced to confess his want of personal acquaintance with it. The name chosen to distinguish it is not perhaps very appropriate, but has been selected as that least strange to English readers. The highest summit of this district is the Piz Linard (11,208'), which, as well as the Mutler and several others of this group, has been ascended by that indefatigable mountaineer, M. Weilenmann; and in the last few years, members of the Swiss Alpine Club have done much to complete its exploration.

The road of the Vorarlberg, forming the boundary between the Rhetian and the Bavarian Alps, is described in this section, but it has appeared to be more convenient to include the description of the entire Engadine, or Upper Valley of the Inn, in § 36, although a portion of that valley forms the S. boundary of the district here described.

A mountaineer intending to enter the Austrian territory will be careful to have his passport in due order; but as a general rule English travellers have no reason to complain of needless annoyance from Austrian officials.

#### ROUTE A.

##### BREGENZ TO LANDECK, BY FELDKIRCH AND THE ARLBERG PASS.

	Austrian miles	Eng. miles
Hohenembs . . . .	2½	11½
Feldkirch . . . .	2	9½
Nenzing . . . .	1½	7
Bludenz . . . .	1½	7
Dalaas . . . .	2	9½
Stuben . . . .	2	9½
St. Anton . . . .	2	9½
Flirsch . . . .	2	9½
Landeck . . . .	2	9½
	17½	89½

The road here described lies altogether in Austrian territory. It affords a very direct and convenient route for persons going from England into the Tyrol; but it very rarely happens that any traveller turns aside from the high road to explore the fine glacier scenery that is within easy reach of the lateral valleys of Montafun and Paznaun, lying S. of the main road. There is regular diligence communication between Bregenz and Innsbruck, and this may be used by travellers about to visit the E. of Switzerland, and intending afterwards to enter Austria or Bavaria, who may pass their heavy luggage at Bregenz, and then forward it to Innsbruck, instead of incurring the expense

and annoyance of carrying it with them over Alpine passes.

*Bregenz* (Inns: Oesterreichischer Hof, good; Goldener Adler, or Post: Schwarzer Adler; Krone) is a prettily situated little town at the E. end of the Lake of Constance, more fully noticed in § 41. The road to Feldkirch has been little frequented by strangers since the opening of the railway from Rorschach to Coire, as Feldkirch may be reached from several of the stations on that line, and there is a post carriage daily from the Haag station (§ 28). A traveller finding himself in Bregenz will not, however, save time by the détour to Rorschach, and will do better to follow the post road by Hohenembs to

*Feldkirch* (Inns: Post; Engel Gabriel, good), 1,462 ft. above the sea. Here the *Ill* descends from ESE. to join the Rhine through a broad valley whose lower and more level portion, about 15 m. in length, is called *Walgau*. Above Bludenz it divides into two branches, of which the S. branch, called Montafun, running parallel to the Rhetikon range, is described in Rte. B; the other branch, or Klosterthal, is followed by the high road to Landeck. This being the only direct carriage road from N. Switzerland into the Tyrol, is a channel of considerable commercial intercourse. The people along the main road, from frequent intercourse with their neighbours, have lost much of the characteristic simplicity of the population of the German Alps, and have acquired something of the hard, business-like tone of the Swiss.

The high road is carried for a considerable distance along the l. bank of the *Ill*. At *Frastenz*, about 2 m. from Feldkirch, it passes the opening of the *Samina Thal*, a narrow glen running parallel to the Rhine. The pedestrian bound for Mayenfeld may avoid the hot valley of the Rhine by taking that glen, on his way from Feldkirch; or he may reach the lower part of the Prättigau at Seewis, above Grösch. See Rte. F. With the latter object in

view, it is probably a better plan to follow the road through the Wallgau to *Nenzing*, on the torrent issuing from the *Gamperthenthal*, through which a little-used path leads directly to Seewis. The *Fundelhorn* (7,871'), rising on the E. side of the last-mentioned valley, is conspicuous from the high road. On the N. side of the Ill is seen the opening of a considerable lateral valley, called *Walserthal*, through which a path leads to the head of the *Bregenzer Ach* (§ 41).

Before reaching *Nüziders*, the road crosses to the rt. bank of the Ill, and gains a view of the higher peaks of the *Rhätikon*, with the extensive snow-fields of the *Brandner Ferner*. About 2 m. from the bridge is the little town and post station of

*Bludenz* (Inns: Post; Kreuz), finely situated at 1,758 ft., close to the head of the Wallgau, where this is formed by the junction of the *Montafun* valley (Rte. B) with the *Klosterthal*. There is a fine view from the church, and better still from the castle of *Sternbach* above the town. [The mountaineer should make the ascent of the *Sceesa Plana* (9,738')—usually called on this side *Wetterspitze*—the highest summit of the *Rhätikon Alps*. *Anton Neier* and *Ferd. Heine* are named as guides—pay 6 fl. or 10 fl. descending to Seewis (Rte. F). The way lies through the *Brandnerthal*, on the W. side of the *Alvier* torrent which drains that valley. The highest hamlet, named *Brand*, is attained in 3 hrs. from *Bludenz*. The way then lies on the opposite side of the valley, about due S., to a fine lake called *Lüner See* (4,988'), surrounded by precipitous crags. Above it a comfortable hut opened by the German Alpine Club affords night-quarters to travellers. The ascent of the peak involves a steep scramble over rocks, and the passage of some crevassed glacier. The view must be very extensive.]

The road to *Landeck* mounts nearly due E. from near *Bludenz*, through the *Klosterthal*, a narrow and wild glen running parallel to the line of junction

between the *Jura limestone* and the *trias*.

The first post-station is *Dalaas*, with a good inn at the Post. The next is *Stuben* (Inn: Post), the highest village (4,324'), E. of which rises the ridge of the *Arlberg Pass* leading to *Landeck*, and forming the boundary between *Tyrol* and the province which, from the name of its frontier ridge, has derived the name *Vorarlberg*. The pass lies between the *Kalteberg* (9,505') to SW., and the *Schindler Spitze* to NE.

The road is one of the most ancient of alpine highways, having been made under the Emperor *Joseph II.* in 1787; but it has since been in great part reconstructed. The crest of the *Arlberg Pass* (5,902') is reached in little more than 1 hr. from *Stuben*. A short way below the summit on the *Tyrol* side are the Inn and Church of *St. Cristoph*, originally established in the fourteenth century as a refuge for travellers, below which the road descends into the *Stanzerthal*, watered by a stream named *Rosanna*, whose principal source is in the *Ferwallthal*, a glen communicating by high passes on the one hand with *Montafun*, on the other with the *Paznaunthal*. The road descends rather rapidly to the post station at *St. Anton* (Inn: Post, tolerable), and thenceforward keeps to the l. bank of the *Rosanna*. Several villages are passed, including the post station of *Fliersch* (3,770'). A few miles lower down is the junction of the *Rosanna* with the *Trisanna*, issuing from the *Paznaunthal*, overlooked by the picturesque castle of *Wiesbergen*. The scenery becomes softer, and the climate sensibly hotter, as the road approaches the valley of the Inn, which is entered at

*Landeck* (Inns: *Schwarzer Adler*: Post, not bad, but foul smells; *Göldener Adler*), picturesquely situated on the rt. bank of the Inn, at 2,640 ft. above the sea. One main road follows the river to *Innsbruck*, while another mounts along the stream to the defile of *Finstermünz*, and leads either to the

Engadine (§ 36), or to the valley of the Adige (§ 48). For further information as to the neighbourhood of Landeck, see Alpine Guide, Part III.

### ROUTE B.

#### BLUDENZ TO LANDECK, BY MONTAFUN AND THE PAZNAUNTHAL.

	Hrs. walking	English miles
Schruns . . . . .	3	9
St. Gallenkirch . . . . .	2	6
Pattenen . . . . .	3½	10½
Galtdür . . . . .	5	12½
Ischgl . . . . .	3	8
Kappel . . . . .	2	6
Landeck . . . . .	4	12
	22½	64

There is a rough char-road from Bludenz to Schruns; the remainder of the way is practicable on horseback.

The pedestrian going from Feldkirch to Landeck may choose a course in every way more interesting, and but little longer than the high road described in the last Rte., by following the main branch of the Ill through the highland valley called *Montafun*, and descending into the Tyrol by the *Paznaunthal*. Besides the attractions of fine scenery in both valleys, the stranger will be interested by the primitive manners and costume of the people, though the severity of the climate and the small resources of the soil drive many of the young men to wander abroad in search of a livelihood, with the hope of returning in after-life to their native valleys. The entrance to Montafun is through a very grand rocky defile opening near the ancient convent of St. Peter, about 2 m. from Bludenz. At 1½ hr. from that town is the hamlet and church of St. Anton, standing on or near the site of a large village or town traditionally reported to have been overwhelmed by a berg-fall. At *Vadans*, ½ hr. farther, is the opening of the *Reilsthal*. Through that glen is an easier and shorter way to

the Lünser See and the *Scesa Plans* than that from Bludenz, but very few strangers have approached the mountain from this side. For the *Schweizerthor* see Rte. F. A green and level reach of the valley, about 3 m. in length, leads to

*Schruns* (Inn: Traube, very fair, the best on this route: Löwe), 2,084 ft. above the sea. Here the *Silberthal*, also called *Litzthal*, opens to the E., penetrating deeply into the mountain ranges that separate the *Klosterthal* from Montafun. On the opposite side of the Ill, the *Gauerthal*, more interesting to mountaineers, leads SW. to the *Drusenthor* (Rte. F); and a few hundred yards farther E. the *Gampadel Tobel* gives a passage to another torrent descending from the *Rhætikon* range, and leading to two passes into the *Prättigau*.

The middle portion of the Montafun is remarkable for the extensive cultivation of cherries, and large quantities of kirchwasser are made here. A walk of 2 hrs., chiefly along the l. bank of the Ill, leads from Schruns to *St. Gallenkirch* (2,394'), opposite the opening of the *Gargellenthal*, leading by two rough passes to the *Prättigau* (Rte. F). Near the village a stream descending from NW. makes a fine cascade. The scenery of the head of the valley is very fine. Green meadows and orchards are enclosed between high and bold mountains, and from time to time the traveller gains glimpses of the great glaciers of the *Silvretta Alps*. At *Gaschurn* ('2,769', Schmidt'—probably higher), the *Gannerathal* opens due S., and leads to *Klosters* by the *Garneira Joch* (Rte. F). The last village, about 1 hr. above Gaschurn, is *Pattenen* (3,204'). This is the proper head of the Montafun valley, which has kept a direct upward course to SE. from Bludenz. Several torrents join their waters above the village: the most considerable of these, being fed by the extensive glaciers on the N. side of the *Silvretta* group, flows due N. through the *Fermunthal*. If tolerable accommodation is to be had

there, Pattenen would be desirable headquarters for a mountaineer. The *Gross Litzner* (10,250'), and many nameless peaks of equal or greater height, might probably be reached without much difficulty.

The shortest way from Pattenen to the Paznaunthal is by the *Zeyneser Joch* (6,162'), a pass lying immediately E. of the village; but there is a far more interesting way, a good deal longer, but rather less steep, following the Fermuntthal. The path lies along the rt. bank of the torrent, ascending a little W. of S. for more than 1 hr., till it turns nearly due E. opposite the junction of the *Cromerthal*, a short glen closed at its S. end by the peaks of the *Gross Litzner* and *Klein Litzner*. After following an easterly course along the rt. bank of the main torrent for nearly 1 hr., the traveller reaches the base of the low ridge of the *Bielerhöhe*, forming the watershed between the Ill flowing to the Rhine, and the *Trisanna* which drains the Paznaunthal into the Inn. To his rt. is a great amphitheatre of snowy peaks, divided into two portions by a ridge projecting northward towards the spectator, and dividing the head of the Fermuntthal into two wild alpine glens. The SW. branch—called *Klosterthal*—leads by a difficult glacier pass to the head of the *Sardascathal* (Rte. D), while the SE. branch, or *Ochsenthäl*, is the way to the *Fermunt Pass* (Rte. G).

From the summit of the *Bieler Joch* the traveller overlooks an upland glen that falls NNE. into the head of the Paznaunthal. This is sometimes called *KleinFermuntthal*, to distinguish it from that drained by the principal source of the Ill, but seems to be also known as *Bielerthal*. The orthography of the names throughout this district is very uncertain and confused. It is rather remarkable that in the Swiss Federal Map the same name should be written, in three places, *Fermont*, *Fermund*, and *Vermund*. Keeping to the l. bank of the *Klein Fermuntthal*, and passing the *Fermunt See*, the traveller

reaches in  $1\frac{1}{2}$  hr. from the pass the hamlet of *Wirl* at the head of the *Paznaunthal*. Here he joins the track from *Pattenen* by the *Zeyneser Joch*, and another leading from the *Ferwallthal* (Rte. A). In  $\frac{1}{2}$  hr. from *Wirl* he reaches *Galthür* (5,369'), the highest Tyrolese village, standing at the junction of the *Jamthul* (see Rte. H), said to be the wildest and most savage of the valleys of this district. The inn at *Galthür* is very rough. The *Paznaunthal* descends in a very direct course to ENE. from *Wirl* to its junction with the Inn, about 5 m. from *Landeck*. On the N. side it is bounded by a ridge unbroken by lateral valleys, but from the S. it receives a succession of torrents chiefly fed by the glaciers of the high range which divides it from the Inn, issuing from as many wild glens, which supply scanty pasturage to sheep or horned cattle. Being much higher than the *Montafun* valley, the climate is here more severe, and the population very limited. *Franz Pöll*, a good mountaineer, who accompanied *M. Weilenmann* in several expeditions, lives at *Mathon*. 1 hr. below *Galthür*, near the opening of the *Lareinthal*, a narrow and savage glen closed at its S. end by the extremely bold peak of the *Fluchthorn* (11,142'). It has been climbed, but not without considerable difficulty, by *M. Weilenmann* with *Pöll*. The track keeps along the l. bank of the *Trisanna*, and after passing *Paznaun* reaches *Ischgl* (4,647'), the chief village of the valley, at the opening of the *Emberthal* (Rte. H), the most considerable of the lateral valleys of this part of the range. A rough char-road leads from *Ischgl* down the main valley. About 5 m. farther on, between *Sinsen* and *Kappel*, is the opening of the much shorter *Vignitthal*, on the E. side of the *Vesulspitz* (10,154'). See Rte. H. The hamlet of *Mies* lies at the junction of the *Gribellethal* with the main valley. At the head of this is the *Gribellekopf* (9,508), overlooking the head of the *Sannaunthal*, belonging, all but a part of the l.

bank, to Switzerland, and being the extreme E. point of the territory of the Confederation. A high and steep ridge, belonging on both sides to Tyrol, extends ENE. from the Gribellekopf to the neighbourhood of Landeck, a distance of 14 m. There is a track along either bank of the Trisanna by which the traveller may reach the junction of that torrent with the Rosanna (Rte. A) a short way above Pians, whence he descends by the high road to Landeck.

### ROUTE C.

#### FELDKIRCH TO MAIENFELD

	Swiss leagues	Eng. miles
Vaduz . . . .	3	9
Balzers . . . .	1½	5½
Maienfeld . . . .	1½	4
	6	18½

Since the opening of the railway from Rorschach to Coire, the road along the rt. bank of the Rhine is not much frequented, but the portion here described, lying at the W. base of the Rhätikon range, is an agreeable drive, and derives a little interest from the fact that it lies in great part through the principality of *Lichtenstein*, the smallest sovereignty in Europe, preserved by its insignificance amid the many changes that have affected more important States. A diligence plies daily between Bregenz and Maienfeld, accomplishing the whole distance—40 m.—in 8 hrs.

Soon after crossing the bridge over the Ill, on the S. side of Feldkirch, the road leaves Austrian territory, and enters that of *Lichtenstein*. The scenery is pleasing, though not remarkable. On the opposite bank of the Rhine is seen the opening of the rather deep valley of Toggenburg, that separates the range of the Sontis from that of the Churfirsten (§ 28, Rte. G). About 7½ m. from the Austrian frontier is

*Vaduz*, a small village with a country Inn, but the capital of the principality. The sovereign visits his ancestral castle, standing on steep ground above the village, at rather long intervals, preferring his large possessions in Austria, and his high position at the court of Vienna, to the honour of an independent but solitary existence at his mountain capital. The revenue of the State is estimated at a little over £5,000 a year, and it is bound to furnish sixty-four men to the army of the Germanic Confederation. The road running S. from Vaduz leaves on the l. the village of Triesen, and in about 5 m. reaches Balzers, with a better Inn (Post) than that at Vaduz. *Gentiana pneumonanthe* and some other interesting plants are common in the low meadows in this part of the valley. There is a ferry over the Rhine, about 1 m. from the village, convenient for those wishing to reach Sargans and the L. of Wallenstadt. Immediately S. of Balzers is a column marking the boundary between *Lichtenstein* and the Canton Grisons. Half a mile farther a path turns off to the l. and mounts towards the *Falknis* (8,338'), a summit conspicuous in all the views of this part of the Rhine valley. It is not difficult of access and commands a very extensive panorama. The high road here lies at some distance from the Rhine, passing through the defile of *Luziensteig*, between the lower escarpments of the *Falknis* and the *Fläscherberg* (3,104'). This has always been deemed of great importance as a military position. It was hotly contested between the French on one side and the Austrians and Swiss on the other in 1799, and again in 1800. The *Fortress of Luziensteig*, which now commands the defile, and is connected with a series of block-houses that guard its approaches, has been constructed since 1830, at the cost of the Swiss Confederation. Near the highest point of the road is an Inn, where visitors from the Baths of Ragatz seek refreshment, and a little church, dedi-



cated to St. Lucius, said to be the most ancient in this part of the Alps. The descent from Luziensteig towards *Maienfeld* (Inn: Alte Post) commands very beautiful views of the Valley of the Rhine, with the Calanda, the heights above Ragatz, and the gorge of the Tamina, to the rt., and the opening of the Prättigau to the l. See § 27, Rte. C, where the way from *Maienfeld* to Coire is described.

## ROUTE D.

## MAIENFELD TO SÜS, BY THE PRÄTTIGAU AND THE VEREINA PASS.

	Hrs. walking	Eng. miles
Schlersch . . . .	3	9
Küßla . . . . .	2½	7½
Klosters-Brücke . . . .	2½	7½
Süs . . . . .	8	18
	<hr/> 16	<hr/> 42

Diligence daily between the Landquart Station and Klosters, going on to Davos am Platz. Rough foot-path from Klosters to Süs.

The Prättigau is one of the finest valleys of E. Switzerland, and besides two small watering-places, has tolerable inns in almost every village; but as yet, probably because no popular writer has celebrated its attractions, it remains unknown to the great majority of English travellers. It is rather thickly inhabited by an exclusively Protestant population, who appear to enjoy a considerable degree of comfort. Most travellers enter the valley from the *Landquart* station (1,739'), on the rly. between Ragatz and Coire (§ 27, Rte C). A char-road mounts from that place to the entrance of the defile of Clus, and there joins the road from Malans.

The traveller starting from *Maienfeld* need not make the detour by *Landquart*, as there is a char-road direct to *Malans* (1,831'), a village chiefly known for the excellent wine grown on the neighbouring slopes. A road from that place meets that mounting from

*Landquart* close to a bridge over the torrent, which also bears the name *Landquart*, issuing from the Prättigau. By the bridge stands an Inn (*Zum Felsenbach*), and a third road from *Zizers* meets those already mentioned at that point. The bridge is about 1½ hr. from *Maienfeld* or from *Zizers*, and about ¾ hr. from the *Landquart* station.

Beyond the junction, the road into the Prättigau is carried for several miles along the rt. bank of the *Landquart*. It at once enters the narrow defile of Clus, where the valley is contracted between the S. base of the *Augstenberg* (7,801') and the lower range to the S. For more than a mile there is barely room for the road, which is carried at a considerable height above the torrent, and passes under the ruins of the Castle of *Fragstein*, that once commanded the entrance to the valley, and was provided with a gate by which the only tolerably easy track could be absolutely closed. On emerging from the defile the road passes the hamlet of *Pardisla* (1,982'), where a track mounts northward to *Seewis*, the chief village of the *Ganeyerthal*, with a pension (*Scesaplana*) frequented in summer. From that village a mountaineer may reach the *Wallgau* by three passes leading either by the *Saminathal* to *Frastenz*, or to *Nenzing* by the *Gamperthenthal*. See Rte. F. The ascent of the *Scesa Plana* may also be effected from *Seewis*, and is said to be less difficult than by the way from *Blundenz*, described in Rte. A. The main road, after crossing the torrent from the *Ganeyerthal*, reaches *Grüsch* (Inn: *Krone*, fair), overlooked by the ruined castle of *Solavers*. The floor of the valley is defaced by sand and gravel brought down by the torrent throughout the space of about 2 m. between *Grüsch* and

*Schiersch* (Inns: *Löwe*, good and reasonable; *Krone*; *Schwan*), 2,257 ft. above the sea, at the junction of the *Drauenthal* with the main valley. By that way lie two high passes to the *Montafun*

Valley, the Schweizerthor (7,120') leading to Vaduns, and the Drusenthor (7,822'), lying farther E. under the shattered ridge of the Drusenfuhr (9,298'), by which the traveller may reach Schruns through the Gauerthal (see Rte. F). The range of the Rhætikon N. of Schiersch seems to be menaced with rapid destruction. There are many remains of great berg-falls. One of the most recent of these, in 1805, almost completely destroyed the village of Busserein, in the lower part of the Drusenthal.

An interesting excursion may be made, in 3½ hrs., from Schiersch to the summit called *Kreuz* (7,218'). A path mounts about due E. to the highest châteaux of the Stälderberg, and a grassy ridge leads thence to the highest point. The pedestrian may descend on the S. side of the mountain to Luzein, and rejoin the road at Dalfazza.

The road up the valley crosses to the l. bank of the Landquart rather more than 1 m. above Schiersch, and mounts gently towards SSE. to *Jenatz* (Inns: Heim's Hotel; Krone), a pretty village 2,461 ft. above the sea. The valley here resumes its true direction, somewhat S. of E., and from time to time the snowy peaks of the Silvretta Alps rise above the nearer ranges. About ½ hr. farther is the spot called Fideris Au, where stands a good and reasonable country Inn—kept by Niggli. The landlord has light chais available for excursions up and down the valley. On rising ground to the S. stands the village of *Fideris* (2,959'). There is near the village a large new Inn, and a *pension* (zum Stern), where board and lodging are had on very cheap terms. 'The landlord, Clas Bohner, knows the mountains well, and is a successful sportsman' [B.]. S. of the village is a narrow glen or ravine called *Raschitscher Tobel*, running deep into the mountain range separating the Prättigau from the Schanfiggthal. In the midst of the forest that clothes it is wild glen stand the *Baths of Fideris*, 3,465 ft. above the sea, about

1½ m. from the main road, and accessible by a very rough track, just passable by a light char. The accommodation is somewhat rough, but in summer the two large establishments are generally crowded. The cookery and wine are said to be fairly good. The waters are alkaline and chalybeate, and considered useful in some pulmonary affections, and for the removal of visceral obstructions. There is a path to Langwies in the Schanfiggthal which is reached in 3 (?) hrs.

Above Fideris Au, the road traverses a very picturesque wooded defile; and after passing below the ruins of the Castle of Strahlegg, it crosses a covered bridge over the Landquart, and soon after reaches *Dalfazza* at the opening of the St. Antönierthal, through which lies a somewhat frequented track connected with three passes leading to the Montafun valley (Rte. F). On high ground to the NW. is *Luzein* (3,140'), a village commanding a beautiful view of the Upper Prättigau. But ½ m. beyond Dalfazza is

*Küblis* (Inn: Krone, at the post), a village lying deep in the valley, at 2,697 ft., the best head-quarters for excursions in the St. Antönierthal. The new road to Klosters is carried along the slopes above the rt. bank of the Landquart, passing *Saas* (3,255'), and *Mezza Selva* (3,445'). Pleasanter for pedestrians is the road by the l. bank, passing *Serneus* (3,304') and about a mile farther on, the *Baths of Serneus* (3,232'), a mineral spring containing sulphur and various salts, with very fair accommodation. Nearly due N. rises the *Madrischorn* (9,344'). The road on the rt. bank passes several torrents descending through lateral ravines, the most considerable of which issues from a high glen called *Schlappina*, said to be one of the wildest in the Rhætikon chain. [A rather steep ascent, a little E. of N., leads in about 1½ hr. from the road to a group of châteaux (5,456'), lying at the S. base of the *Schlappiner Joch* (7,185'), one of the lowest passes leading to Montafun.

The track descends through the Gargellenthal (Rte. F) to St. Gallenkirch. From the above-mentioned châteaux the head of the Schlappina glen mounts nearly due E., at right angles to its previous course. Keeping the S. branch of the torrent, the traveller may reach a small tarn called Schotten See (8,041'), encompassed by high and steep rocks. The N. branch of the torrent leads to the *Garneira Joch* (8,071'), a rather difficult pass lying at the head of the Gannerthal, one of the tributary glens of the Montafun valley. This pass may be considered as the division between the Rhetikon and the Silvretta Alps.]

*Klosters* is a collective name given to the chief commune of the Upper Prättigau. It includes five scattered hamlets. The parish church is at that called Platz (3,953'), and near to this two new Inns (H. Silvretta and Hirsch). Guides Ch. Jaun, Ch. Jogen, and Anton Schlegel. The road to Davos, over the low Laret Pass, S. of Klosters, is described in § 35, Rte. D. Above Klosters the valley of the Landquart soon divides into several branches, each of them traversed by a torrent that is fed by the snow-fields of the Silvretta Alps. For some distance there are well-marked tracks from Klosters along both banks of the Landquart; but the way is scarcely traced over the Vereina Pass, and except in very clear weather a guide is indispensable. The better way is by the S. bank of the stream. On the opposite side is Monbiel, the poor remains of a village crushed by a berg-fall in the last century. Serpentine is seen in several places near Klosters—a circumstance which will be noted by the mineralogist and the botanist. About 1½ hr. above Klosters is the junction of the Sardascathal, descending due W. from the Silvretta Glacier (Rte. E), with the Vereina Thal drained by the Vereinabach, flowing towards the N. from the Weisshorn and other adjoining peaks in the range dividing the Rhine from the Inn. On approaching the

junction of the two torrents, the path to the Vereina Pass mounts at first on the rt. side, and afterwards by a steep slope on the l. bank of the Vereinabach, to the Stutz Alp (6,158'), reached in 2½ hrs. from Klosters. These châteaux command a fine view of the *Pischa Glacier* and the *Eisenhorn* (9,816'), rising on the W. side of the Vereina-thal, and the *Weisshorn* (10,135') at its S. extremity. The latter is not to be confounded with a lower peak of the same name (9,318') rising immediately E. of the Stutz Alp. An easy ascent of ½ hr. leads to the opening of the Vernelathal (Rte. E). On the slope of the mountain, which is covered by huge blocks of gneiss, is a cavern called Baretto Balma, said to have been once inhabited by 'wild men.' A search for flint weapons or bones might reward the pains. Leaving the Vernelathal to the l., the path keeps along the E. side of the main valley, and passing opposite the châteaux of Fremd Vereina (6,437'), reaches the opening of the *Süserthal*, a short and steep glen, mounting a little S. of E. to the *Vereina Pass* (8,133'). The ascent is easily made in 1½ hr., and commands a fine view of the *Plattenhörner*, with three nearly equal summits, of which the E. point reaches 10,587 ft. The top of the Piz Linard, the highest of the Silvretta Alps, is seen at intervals during the ascent; but to command a complete view of that fine peak it is necessary to mount to the ridge at the E. end of the Süserthal, immediately S. of the Plattenhörner. This ridge, called on the Federal Map Val Torta (8,724'), lies exactly opposite the W. face of the Piz Linard, and the détour, which may be made in ¾ hr., is well worth the trouble, for the sake of the grand view. It is possible to descend from the ridge into the head of the *Val Sagliains*, which falls SE. into the valley of the Inn between Süs and Iavin, and in point of distance this is the shortest way to either of those places; but the Val Sagliains is an extremely rugged and pathless glen, and the ground is so

difficult that time is lost by taking this course. It is so bare of vegetation, that no cows are pastured there, and the huts in the lower part of the glen are occupied by shepherds.

The Vereina Pass is a depression between some nameless summits S. of the ridge of Val Torta (whose highest peak reaches 9,925 ft.) and a larger mass lying between these and the head of the Vereinathal, crowned by the *Rossthäli* (9,629'). Having reached the pass by following a course but little S. of E., the traveller turns abruptly to SW. across a small plateau with several little tarns or pools, and descends in the same direction into the head of the *Val Fless*, keeping along the l. bank of the torrent. This gradually bends to the l., and after passing opposite to a solitary chalet (6,890') the course lies SE. In about 1½ hr. from the summit the path reaches the junction of the *Val Fless* with the *Val Susasca*, and joins the far more frequented track leading from the *Fluela Pass* (§ 35, Rte. F). The course is now due E., along the l. bank of the *Susasca* torrent, until this is crossed a short way from the high road, which is reached about 3 hrs. from the summit of the pass, at *Süs* (Inn: *Krone*), described in § 36, Rte. A.

### ROUTE E.

GLACIER PASSES FROM KLOSTERS TO LAVIN, OR GUARDA — ASCENT OF PIZ LINARD.

1. *By the Laviner Joch.* From Klosters to Lavin, 9 to 10 hrs.

A way from Klosters to the Engadine, rather more difficult and laborious, but perhaps more interesting than the Vereina Pass, lies through the *Vernelathal*, which, as mentioned in last Rte., diverges from the Vereinathal near the cavern called *Baretto Balma*. The *Vernelathal* mounts nearly due E. along the N. side of the extremely bold range of the *Plattenhörner*. Its W.

end is closed by a glacier-covered ridge, at the N. end of which rises the double peak of the *Schwarzhorn*. The S. peak, nearest the pass, is 10,656 ft. in height, but the higher N. peak attains 10,834 ft. This is the highest of several mountains in the Rhätian Alps bearing the same name, and may be considered the central peak of the *Silvretta* group. The ascent is extremely rough, and pathless, and but one chalet (7,225') is passed in the *Vernelathal* before reaching the base of the ridge covered by the *Piller Glacier*, over which lies the pass of the *Laviner Joch* (9,131'). The summit, reached in 6 hrs.' steady walking from Klosters, overlooks from the W. side the head of the *Val Lavinuoz*, and is said to command one of the finest views in this part of the Alps. To the N. rise the two peaks of the *Schwarzhorn*, and rt. of these is the steep ice-fall of the *Vadret Tiatscha*, a comparatively small glacier descending from a great snow-field lying between the *Schwarzhorn* and *Piz Buin* (10,916'). S. of the latter is another high nameless peak (10,774'), rising exactly opposite to the spectator.

The descent from the *Laviner Joch* is said to be steep and rather difficult. The ridges of very steep rocks are broken in one place by a slope of debris, down which the traveller makes his way to the chalets of *Marangun*, at the head of *Val Lavinuoz*, a short way below the end of the *Tiatscha Glacier*. The descent is by a rough track on the rt. bank of the torrent, until, near the opening of the valley, it passes to the l. bank, and falls rapidly to *Lavin*, on the high road of the *Engadine*. See § 36, Rte. A.

2. *By the Silvretta Pass.* From Klosters to Guarda, 9 to 10 hrs. This pass was traversed in 1864, by Messrs. *Girdlestone* and *Pilcher*, following the course suggested by the writer in the first edition of this work; but Prof. *Ulrich*, who crossed it in 1863, says that it has long been known to the natives. It appears to be rather easier

than the Laviner Joch, but not quite equal to the latter in scenery. From its junction with the Vereinalth (see last Rte.), the *Sardascathal* stretches due E. to the Silvretta Glacier which forms the natural termination to the main branch of the Prättigau. The châteaux of the Sardasca Alp (5,364'), lie in the middle of this glen, 2½ hrs. from Klosters. Near this the main stream is formed by the union of four torrents. That from the N. issues from a wild recess in the mountains. To NE. the torrent flows from a pass leading to Montafun (Rte B), while SE. opens the *Verstanklathal*, a short glen by which the upper plateau of the Silvretta Gl. may be reached by a slight detour. The direct way lies due E. along the torrent from the Silvretta Gl. In 1½ hr. from the lower châteaux, the traveller reaches the new commodious hut built by the Swiss Alpine Club near the foot of that glacier. The moraine on the rt. bank may be followed for ¼ hr. and the ascent is easily continued by the ice, keeping somewhat to the N. side, opposite the *Verstanklahörner* (10,833'). In about 6 hrs. the summit of the pass is reached without the least difficulty, and as it is a broad snow col, it is best to advance for about ½ hr. somewhat S. of E. to a sort of island of rock, which offers a striking though limited view. From the upper névé of the Silvretta, two small glaciers flow to the S. Of these the *Vadred Tiatscha* (see above) falling into *Val Lavinuoz* is decidedly difficult, but not impossible. The *Cronsel Glacier*, falling SE. into *Val Tuoi*, presents no difficulty, and less than 1½ hr. suffices to reach the head of that glen. A walk of 50 min. carries the traveller to the Alp Sott (6,611'), and in 1 hr. more he reaches the inn (Sonnen) at Guarda (Rte. G). In descending, the traveller passes close to Piz Buin (10,916'), a summit best attacked from the side of Montafun.

*Ascent of Piz Linard* (11,208'). The Piz Linard being most conveniently accessible from Lavin, and being the

most conspicuous as well as the highest peak in the Silvretta group, a short notice of the ascent is given here, chiefly borrowed from M. Weilenmann, who allowed his inefficient guide to remain behind, and accomplished the expedition alone, a course not recommended to future travellers. The Piz Linard is a very steep pyramid, forming a promontory that extends from the dividing range of the Silvretta Alps towards the Engadine, and divides the Val Sagliains from the Val Lavinuoz. Two parallel ridges stretch SE. from the peak towards Lavin, enclosing between them an upland glen locally named Glims, whose torrent ultimately flows S. into Val Sagliains, a little above its junction with the Inn. At the S. base of the peak there is a col or depression in the ridge separating Glims from Sagliains. This point may be reached from either of those glens, but the shortest way from Lavin is by Glims. The pyramidal summit of the Linard appears to be inaccessible on every side, except by the arête that falls a little W. of S. towards the above-mentioned col. A long channel or broad couloir, filled with snow, descends between two ribs of rock, and this appears to offer the easiest access to the mountain. Above this it is necessary to scale the very steep rocks of the highest peak, which are in some places so smooth as to give but little hold for feet or hands, and are seamed by furrows containing snow or ice, demanding caution and experience in the climber. The summit is a sharp arête, with two piles of stones. The S. end is the lower. A few paces beyond the N. end, which marks the highest point of the mountain, the ridge falls away in a formidable precipice towards the head of Val Lavinuoz. As the peak has no near rival in the ranges N. of the Engadine, except the Piz Kesch, which surpasses it by 3 ft., and is fully 18 m. distant, the panorama is one of the most extensive in this part of the Alps. M. Weilenmann warns future travellers

against an impudent pretender, living at Lavin, who offered himself as guide under false colours, and proved himself to be utterly incompetent.

### ROUTE F.

#### PASSES FROM THE VALLEY OF THE ILL TO THE PRÄTTIGAU.

Although no detailed information can be given as to the passes connecting the Wallgau and Montafun with the parallel valley of Prättigau, it seems convenient to enumerate here those which are occasionally used by the people of the adjacent glens, although there is no one of them that can be called frequented. No reliable information as to distances can be given.

1. *Saminathal to Seewis*. At the head of the Saminathal (Rte. A) is a pass which may for distinction be called *Samina Joch*, 7,795 ft in height, leading to the *Ganeyerthal*, which joins the Prättigau, near Grösch. At the head of the Saminathal, the track keeps SSE. to a point midway between the *Grauspitz* (8,648'), and a nameless summit (8,543') lying E. of the Falknis. The descent towards the Prättigau lies to SE., passing first the châteaux of Sturvis (5,207'), then those of Gannei (4,315'), and following the valley about due S. to *Seewis*, (2,986') less than 1 hr. above Grösch (Rte. D).

2. *Nenzing to Seewis by the Grosse Furka*. At the head of the Gamperthenthal, which opens into the Wallgau at Nenzing (Rte. A), two passes lead to Seewis. The more frequented is the *Grosse Furka* (7,546'), lying E. of the *Grauspitz*. The track joins that of the *Samina Joch* (No. 1) between Sturvis and Gannei.

3. *Nenzing to Seewis, by the Kleine Furka*. The *Kleine Furka* lies considerably farther E. than the *Grosse Furka*, and near the *Alpstein* (9,347'), a western peak of the *Scesa Plana*. It appears to be a rarely-used pass.

4. *Cavell Joch, from Lüner See to Seewis*. As mentioned in Rtes. A and B, the Lüner See, a large mountain lake E. of the *Scesa Plana*, may be reached from Bludenz by the Brandnerthal, or more easily from Vadans in Montafun by the *Relisthal*. There are tracks along both sides of the lake which meet above its S. end, and a rapid ascent to WSW. leads thence to the *Cavell Joch* (7,562'). This pass is convenient only for those who wish to reach the lower end of the Prättigau, as the descent lies through the E. branch of the *Ganeyerthal*, and the pass leads, like those already mentioned, to *Seewis*.

5. *Schweizerthor, Vadans to Schiersch*. This very grand pass is reached from the N. side through the *Relisthal*. Instead of following the path at the head of that valley which leads SW. to the Lüner See, the course lies about due S. to the *Schweizerthor* (7,120'). The pass, lying between the *Drusenfluh* (9,298') to E., and the *Kirchelispitz* (8,498') to W., is a scene of the utmost desolation. Vast precipices rise on either side, and huge masses of fallen rock cover the slopes below them. The track leading to Schiersch winds along the slopes to SW., making considerable circuits in order to cross the gullies that furrow the steep declivity. Save the solitary châlet of Tamund (5,384'), at the foot of the *Drusenfluh*, no dwelling is seen till the path reaches Schuders (4,056') in the *Drusenthal*, whence there is an easy descent by Busserein to Schiersch (Rte. D), 5 hrs. from the pass.

6. *Drusenthorn, Schruns to Schiersch*. This pass, higher but less difficult than the last, is the easiest way from Schruns (Rte. A) into the Prättigau, and is sometimes passed on horseback. The pass, 7,822 ft. in height, lies at the head of the *Gauerthal*, between the *Drusenfluh* and the equally rugged crest of the *Sulzfluh* (9,324'). On the Prättigau side the descent is nearly due W. along the base of the *Drusenfluh*, joining the track from the *Schweizerthor* at the châlet of Tamund, near the head of the *Drusenthal*.

7. *Schrüns to Küblis, by the Partnuner Pass.* The *St. Antönierthal*, mentioned in Rte. D, is said to be the most picturesque of all the lateral valleys of the Prättigau. It is connected by three passes with Montafun. The most westerly of these, called *Partnuner Pass* (7,349'), is reached through the ravine of the *Gampadel Tobel*, opening into Montafun, a little E. of Schrüns. The path bears to the right, along the W. side of a streamlet descending from a mountain tarn, and finally turns sharply to the W. to attain the pass, between the *Sulzfluh* and *Mittel Fluh* (8,441'). The track, after passing a little lake, descends to the large and comfortable châteaux of the *Partnun Alp* (5,866'), at the head of the *Partnunthal*. From hence the mountaineer may in less than 3 hrs. attain the fine peak of the *Sulzfluh* (9,324'), commanding a noble panoramic view. On its E. face are some caverns somewhat difficult of access, but worth a visit for their large dimensions and fine stalactites. The *Partnunthal* joins the main branch of the *St. Antönierthal* some way above the village of *St. Antönien* (4,658'). The track then lies on the rt. bank of *Dalfazzer Bach*; but about 2 m. below the village there is a bridge, and the traveller may choose between the path on the rt. bank leading to *Luzein*, and one on the opposite side, by which he can descend directly to *Küblis* (Rte. D), 6 hrs. from the pass.

8. *Schrüns to Küblis, by the Plassegen Pass.* Towards the head of the *Gampadel Tobel* the torrent branches into two. The way to the last-mentioned pass is by the l. bank of the SW. branch. Another path following the rt. bank of the SE. branch leads to the *Plassegen Pass* (7,615'). The track descends on the Prättigau side to the châteaux of *Thaleck* (7,103'), at the head of a lateral arm of the *Partnunthal*. The course then turns sharp to WNW., and in little more than 1 hr. from the pass joins that last noticed at the *Partnun Alp*.

9. *St. Gallenkirch to Küblis, by the*

*St. Antönier Joch.* From the *Plassegen Pass* last noticed the ridge of the *Rhætikon*, dividing the basin of the Ill from that of the *Landquart*, extends due S. for a considerable distance to the peak of the *Müdrishorn* (9,344'), and then resumes its easterly direction to its junction with the higher group of the *Silvretta Alps*. The consequence is that the *Gargellenthal*, which is the next valley eastward of the *Gampadel Tobel*, penetrates much farther S. and communicates with the middle portion of the Prättigau by the pass here described, as well as with the head of that valley by the *Schlappiner Joch* (No. 10). At the upper end of the *Gargellenthal* two torrents form to join the *Suggedinbach*, which drains the valley. The SE. branch—called *Valcalda*—does not appear to be connected by any practicable pass with the Prättigau; but the S. branch leads to the *Schlappiner Joch*. Near the châteaux of *Gargellen*, just below the junction of the two torrents, a track mounts due W. to the *St. Antönier Joch* (7,848'), and follows the same direction throughout the rather rapid descent to the village of *St. Antönien*. The way thence to *Küblis* is noticed in No. 7.

10. *St. Gallenkirch to Klosters, by the Schlappiner Joch.* From the junction of the two torrents at the head of the *Gargellenthal* a track mounts due S., chiefly along the rt. bank of the torrent, but crossing to the opposite side at the commencement of the final ascent. The *Schlappiner Joch* (7,185'), one of the lowest of the passes here enumerated, lies E. of the *Müdrishorn*, and affords perhaps the easiest and most direct means of communication. but the path is (?) not practicable for horses. The descent to *Klosters* follows a course somewhat W. of S. through the *Schlappina glen* to its junction with the Prättigau, 2 m. NW. of *Klosters Platz*. (See Rte. D.)

11. *Gaschurn to Klosters, by the Garneira Joch.* The *Gannerathal*, opening into Montafun opposite *Gaschurn* (Rte. A), and the *Garneira Joch*,

connecting it with the E. end of the glen of Schlappina, form the most natural boundary between the Rhætikon and the Silvretta Alps. The height of the pass is 8,071 ft., and the distance is not great. An active mountaineer, instead of taking the circuitous path to Klosters along the Schlappina Bach, might possibly reach that place over the summit of the *Schilt* (9,462'), the highest point in the range dividing the head of the Schlappina from the Landquart. It would be a better plan to attempt that course from the side of Klosters, and with a local guide. In case the ascent and descent of the Schilt should consume too much time, it would then be easy to return to Klosters by the track through Schlappina.

12. *Pattenen to Klosters, by the Sardasca Pass* (?) In Rte. B., and again in Rte. D., allusion is made to a pass connecting the branch of the Fermunthal called Klosterthal with the head of the Sardascathal. It is a hunter's pass lying partly over glacier, and said to be difficult. It is mentioned here merely to direct to it the attention of mountaineers. Information as to all the above passes will be thankfully received by the Editor.

Detailed information respecting the St. Antönierthal, the Sulzfluh, and the caverns of that mountain, may be found in a little volume called 'Sulzfluh,' published at Coire, 1865. It is an account of an excursion undertaken in 1864 by the Rhætian section of the Swiss Alpine Club.

## ROUTE G.

### PATTENEN IN MONTAFUN TO GUARDA, BY THE FERMUNT PASS.

In the absence of detailed information of a reliable character, this pass is noticed separately with the belief that it will hereafter be comparatively frequented by mountaineers. It offers to a pedestrian much the most direct way from the Lake of Constance to the Lower Engadine, as a traveller starting early, and availing himself of vehicles as far as Bludenz, may reach Gaschurn or Pattenen in one day from Rorschach or Bregenz. The way then follows the *Fermunthal* to the foot of the Biekerhöhe, by the track mentioned in Rte. B, and then turning to the rt. mounts along the rt. bank of the glacier torrent descending from the *Ochsenthal*. This is crossed a short way below the point where it issues from the glacier which is considered the main source of the Ill, and after following the moraine some way, the traveller ascends over glacier and considerable snow-fields for 3 hrs. to the

*Fermunt Pass* (9,206'), lying E. of *Piz Buin* (10,916'), and overlooking the *Val Tsoi*. The way lies by the l. side of a small glacier which soon leads down to the highest pastures. Thence the way (see Rte. E) lies nearly due S., to *Guarda* (5,413'), on the brow of a steep declivity overlooking the valley of the Inn, noticed in § 36. Rte. A.

## ROUTE H.

### PASSES FROM THE PAZNAUNTHAL TO THE ENGADINE.

1. *Galthür to Ardetz, by the Futschü Pass*. Galthür, the highest village in the Paznaunthal, stands at the confluence of the Trisanna with the torrent issuing from the *Jamthal*, and draining the *Jamthaler Ferner*, the most



extensive glaciers on the Tyrolese side of the Silvretta Alps. The head of the Jamthal, encircled by many of the highest peaks of this group, is said to offer the perfection of wild and savage scenery. To the rt. is the great Jamthal Glacier, enclosed by a range exceeding 10,000 ft. in height, one nameless summit reaching 10,496 ft. [No pass in this direction appears to be known, but it may be possible to reach the head of the Val Tuoi.] In the centre is the *Augstenberg* (10,443'), connected by a snowy range forming a deep recess to SE. with the *Fluchthorn* (11,142'). The *Futschöl Pass* (9,078') lies over a depression in the snowy wall of this amphitheatre. On the S. side the descent lies almost altogether over rocks, keeping a SE. direction till near a solitary chalet (7,887'), at the head of the Val Urschai, when the way turns S.W. through that glen. This is the NE. branch of a lateral valley of the Engadine, whose torrent descends to join the Inn between Fettan and Ardetz. The *Val Urschai* is all but completely enclosed by high snowy peaks. Its NE. end is closed by the *Piz Fatschelv* (10,430'), and a steep and high ridge extends SSW. from that summit to the *Mintschun* (10,076'). A little below the Urschai Alp (6,913') the *Val Urezas* descends from the W. to join the main branch of the valley, henceforward called *Val Tasna*. This is a very wild glen, contracted between the base of the *Mintschun* to the E., and the *Piz Cotschen* (9,938'), dividing it from Val Tuoi, to the W. The way to the Engadine is along the E. slope of the valley till near the point where the road from Ardetz to Fettan enters the opening of Val Tasna, in order to avoid the deep ravine cut by the torrent lower down. Those who seek better accommodation than is to be had at Ardetz or Fettan, will either pass through the latter village, and push on to Schuls, or else keep to the rt. to Ardetz, and cross the Inn to Tarasp. See § 36, Rte. A.

2. *Ischgl to Remüs, by the Fimber Joch.*

As mentioned in Rte. B, the Fimberthal joins the Paznaunthal from the S. at Ischgl. It is a singular arrangement that the head of this glen should belong to Switzerland. The Swiss portion, including some extensive pastures and a small group of chalets, 7,431 ft. above the sea, is accessible from the Engadine only during the height of summer, by a high and rather difficult pass. This is called the *Fimber Joch* (8,547'), and is reached by a track that ascends SE. from the chalets. At the top it is necessary to bear to the l., or ENE., in order to descend by a very steep track into the head of *Val Choglias*. The Choglias Alp (6,724') lies at the junction of several torrents descending from the surrounding snowy peaks. To the N. is the *Piz Vadret* (10,184')—not to be confounded with others of the same name. Eastward rises the *Stammerspitze* (10,683'), and beyond it, but not visible from hence, the *Muttler* (10,824'). A path leads down the Val Choglias, by the l. bank, to *Grioch* (5,948'), at the opening of Val Tiatscha, a short glen leading to the base of the Muttler, and to a hunter's pass W. of that peak into Samnaunthal. About 1 m. lower down, the *Val Laver* opens on the W., and joins its torrent to that of Val Choglias. The united glens are henceforward called *Val Sinestra*, and a frequented track leads SE., by the l. bank of the stream, to *Remüs* in the Engadine (§ 36, Rte. A.).

3. *Ischgl to Finstermünz, by the Zebles Pass.* A traveller ascending the Fimberthal, before reaching the head of that valley, which belongs to Switzerland, may bear to the l. up a short lateral glen which leads to the *Zebles Pass* (8,333'), on the N. side of the *Piz Vadret* (10,184'). From the summit the way lies due E. into the head of the Samnaunthal (see next Pass), and along the principal torrent of that valley which joins the Inn a short way below the hamlet of Finstermünz. See § 36, Rte. A.

4. *Ischgl to Finstermünz, by the Vignitz*

*Pass.* The range dividing the Paznaunthal from the Inn extends in a tolerably direct line from the Schwarzhorn (10,834'), which may be considered the central peak of the Silvretta Alps, to the Piz Vadred. It here divides into two branches. The longer ridge, following the general direction of the valleys on either side, extends to the Schönjochlberg over Prutz. With the exception of the detached summit of the Vesulspitz (10,154'), none of the peaks of this range attain 10,000 ft., though many of them approach that limit. A much higher, but shorter, range projects to the eastward from the Piz Vadred, including the Stammerspitz (10,683'), the Muttler (10,824'), and the Piz Mondin (10,377'), and terminates at the defile of Finstermünz. In the angle between these two ranges is a pastoral valley—*Samnaunthal*—whose torrent, after receiving the stream from a lateral glen called *Val Sampuoir*, falls into the Inn at the lower end of the defile of Finstermünz. The *Val Sampuoir* and the greater part of *Samnaunthal* belong to Switzerland, but in the lower part of the latter valley the *Schergenbach* torrent forms the frontier between Switzerland and Austria. The small Swiss population of the valley have no convenient access to the Engadine without passing through Austrian territory, though there are two hunters' passes, practicable in the height of summer, leading to *Val Choglias*, and also a very rough track, along the N. or Swiss side of the defile of Finstermünz, from the junction of the *Schergenbach* with the Inn to *Martinsbruck*. The *Zebles Pass* (No. 3) leads from the *Fimberthal* into the head of the *Samnaunthal*. Another way to the Swiss portion of the valley is by the *Vignitz Pass* (8,855'), at the head of the *Vignitzthal*, which, as mentioned in Rte. B, joins the *Paznaunthal* between *Sinsen* and *Kappel*. On reaching the head of the *Vignitzthal*, at the E. base of the *Vesulspitz*, the way lies to the L, and

mounts steeply towards ESE. to the pass, which lies SW. of the *Gribellekopf*. A steep descent leads to *Computsch* (5,591'), the principal hamlet of the *Samnaunthal*. Half a mile lower down, the *Schergenbach* forms the boundary of Switzerland, and the easiest path to the Inn is on the N. or Austrian bank.

5. *Mies to Finstermünz, by the Gribelle Joch.* The *Gribellekopf* (9,508') rising at the head of a N. branch of the *Samnaunthal*, forms the limit between Switzerland and Austria, and the *Gribelle Joch*, lying E. of the summit, affords a passage from the *Paznaunthal* to the Inn without entering Swiss territory. On the N. side the ascent to the pass is about due S., through the *Gribellethal*, and the descent bears towards SSE., along a torrent fed by the snows of the *Gribellekopf*, and then along the *Schergenbach* to the hamlet of *Schergenloch*, which is the shortest way to *Nauders*. If the traveller's course be down the Inn, he should not take that course, but follow a path from *Spiss* that joins the high-road from *Nauders* to *Landeck* (§ 44), 2 m. below *Schergenloch*.

## SECTION 35.

### ALBULA DISTRICT.

UNDER the name *Albula district* are here included the Alpine ranges between the road of the *Splügen*, from *Maienfeld* to *Chiavenna*, the road from *Chiavenna* to *Süs* in the *Engadine*, and the path from *Süs* to *Maienfeld* through the *Prättigau* described in § 34, Rte. D. These limits correspond to the main valleys, and the best marked passes in this part of the Alps. The very extensive mountain region included within these boundaries

is chiefly drained by three tributaries of the Rhine, the streams flowing into the Inn being short and inconsiderable. Of the three main valleys, the northernmost and least important is the Schanfiggthal, which joins the valley of the Rhine at Coire. The central valley is drained by the Albula, or Oberhalbstein Rhine. This enters the Hinter Rhein near Thusis, through the defile of Schyn, and is formed by the union of three torrents, each draining a considerable tributary valley. That of Oberhalbstein to the S. gives access, by the Julier Pass, to the head of the Engadine; a SE. branch leads to the Albula Pass; and a NE. branch—the valley of Davos—runs parallel to the Engadine. The third of the main valleys of this district is the Aversthal, hitherto unjustly neglected by travellers, through which the torrents from several high valleys, whose prevalent direction is from S. to N., descend to the Hinter Rhein near Andeer.

With the exception of the Piz Platta, Piz d'Aëla, and some other outlying peaks, the highest summits of this district lie in the range forming the watershed between the Inn, or the Mera, and the Rhine. This range is broken by many comparatively low passes, and forms a succession of groups most of which attain to or exceed 11,000 ft.

Reckoning from NE. to SW., the first of these is the Scaletta group, including many summits over 10,000 ft.; but the highest—Piz Vadred—does not surpass 10,610 ft. Separated from the last by the Sertig Pass is the Albula group, N. of the Albula Pass; it contains the Piz Kesch (11,211'), the highest summit in the ranges N. of the Inn, and Piz Uertsch (10,738'). The most extensive mountain group—which may conveniently be called the Julier group—lies between the Passes of the Albula and Julier, and includes the Piz d'Err (11,139'), Cima da Flix (10,945'), and Piz Munteratsch (11,106'). Closely connected with the Julier group, but drained by streams that flow altogether

towards the Inn, is the small isolated group crowned by the Piz Ot (10,660'), which may more conveniently be described in the next §. The Gravasalvas group, remarkable as containing the sources of the Inn, the Mera, and the Oberhalbstein Rhine, is the lowest of those here enumerated; its highest point, Piz Lungen, not surpassing 10,400 ft. The considerable mountain mass enclosing the basin of the Averser Rhein, and separating the Aversthal from Val Bregaglia and the V. di S. Giacomo, is not known by any common designation. It culminates in the Piz d'Emet (10,502'), the Pizzo della Palù (10,374'), and the Pizzo Stella (10,266').

Many of the high peaks above enumerated may doubtless be visited from the Engadine; but the greater glaciers lie on the N. side of the range, and should be explored from that direction. Molins and Bergün may both be recommended as good head-quarters for a mountaineer; but the naturalist who wishes to devote time to exploring the Julier group may prefer the less comfortable, but more conveniently placed, inn of Weissenstein.

## ROUTE A.

## COIRE TO SAMADEN, BY THE JULIER PASS.

	Post leagues	Eng. miles
Churwalden . . .	2½	6½
Tiefenkasten . . .	3½	11½
Tinzen . . .	2½	6½
Molins . . .	1½	4½
Bivio Stalla . . .	2	6
Silva Plana . . .	3½	9½
Samaden . . .	2½	7½
	17½	52½

A post-road traversed twice daily by diligence  
in summer in 13 hrs.

The increased resort of visitors to the waters of St. Moritz, and of tourists to the Engadine, has made this a much-frequented road. As it is by far the easiest way to approach the valley of the Inn from the side of Switzerland, it is here given precedence over the

other principal branches of the Albula valley.

It has been already said that the streams which unite their waters in the Oberhalbstein Rhein flow into the Hinter Rhein near Thusis, and it might naturally be supposed that the road from the Rhine valley would follow the course of these waters in its way to the Oberhalbstein. But a glance at the map shows that this route would be a circuitous course; and besides this, the defile between Tiefenkasten and Thusis is so narrow, that the construction of a carriage-road between those places has been a difficult undertaking. At the same time it may be seen that the Oberhalbstein valley, descending from S. to N., is to a great extent continued in the same direction towards Coire by a depression which at the centre does not exceed 5,089 feet in height, and which sends down a stream in one direction towards Coire, in the other towards the Albula. The stream leading to Coire, called *Rabiosa*, joins the Plessur torrent, issuing from the Schanfigg Thal, about 1 m. above Coire; and the post-road, commanding a fine view of the latter valley (Rte. E) up to the Strela Pass, mounts steeply above the l. bank of the united torrents, soon entering the glen of the *Rabiosa*. The ascent is throughout rather steep for wheeled vehicles, and the horses do not get out of a walk. After passing Malix, and below the ruined castle of Strassberg, the post station of

*Churwalden* (Inns: Kreuz; Krone), 3,976 ft. above the sea, is reached. There are here considerable remains of a large monastery, and not far off of a convent, both destroyed during the wars of religion, owing, as some say, to the disreputable conduct of the inmates. A short way on the N. side of the watershed is *Parpan*, a neat mountain village, in a cold and bleak position; and beyond it extends a bare tract, inappropriately named *Valbella* (5,089'), forming the summit of the pass between Coire and Tiefenkasten, but being in reality a deep depression between the

range of the *Stützerhorn* (8,458') to the W. (easily ascended from hence, and described in § 27, Rte. C), and the higher range to the E., including the *Weisshorn* (9,111'), *Rothhorn* (9,406'), and *Lenzerhorn* (9,544'). The pass commands a rather extensive view to the N. On the S. side the road descends gently by the E. side of a mountain tarn called *Vatzer See* (4,898'), and leaves to the rt. the stream which descends to join the Albula through the defile of *Schyn*. For several miles the road crosses a barren heathy tract (called *Heide*), leading in 7½ m. from *Churwalden* to

*Lenz* (Inn: Krone, good and cheap). The village, standing (4,331') at a great height above the Albula, commands a fine view, but this is better seen from the low hill between it and *Obervatz*. To the E. is the main valley of the Albula, dividing near *Filisur* into its two main branches. Southward, beyond the deep trench traversed by the Albula, opens the Oberhalbstein valley, and between this and the Albula the cluster of high peaks crowned by the *Piz d'Aela* (10,893'). Westward, above the defile of *Schyn*, the traveller overlooks a portion of the Rhine valley, and the peaks W. of *Thusis*.

Travellers bound for the Albula or *Davos* may follow a footpath, or take a rough char-road by *Brienz* to *Alveneu* (Rte. C). The road descends at first gently from *Lenz* to *Vatzerol*, where, in 1471, the deputies of the *Gotteshaus Bund*, formed among the people of these valleys, met those of the *Grauer Bund* from the *Vorder Rhein* valley, and the *Zehngerichtes Bund*, formed in *Schanfigg* and *Prättigau*, and there constituted the Confederation of the *Graubünden*, or *Grisons League*, which still survives, although its scope was enlarged by its admission as a canton into the Swiss Confederation. From *Vatzerol* the road descends rapidly in long zigzags to the banks of the Albula, which is crossed a short way above its junction with the torrent from the Oberhalbstein.

at the village of *Tiefenkasten* (2,917'), with two inns (zum Albula, good and clean; H. Julier, large new house). The *Oberhalbstein*, extending from hence about 18 m. to the base of the *Rocchetta* above *Bivio Stalla*, abounds in fine scenery both in the main valley and its numerous lateral tributaries, and deserves far more attention than it has commonly received from tourists. There are many ruins of mediæval castles, and at various points on the road remains of a more remote period have been found,—not a surprising fact, since it leads to the *Julier* and *Septimer Passes*, once traversed by important Roman roads, and believed to have been also frequented by the earlier Celtic population of this region. The *Julier* road mounts by the rt. bank of the torrent, and before long enters the remarkable gorge of *Stein*, reaching in 1 hr. the hamlet of *Burven* (3,901'), where a considerable mass of ancient coins, said to have been Celtic and Etruscan, were found in 1786. High on the opposite bank is the village of *Salnr*. Passing *Conters* (Inns: *Steinbock*; *Kreuz*), the traveller in 1½ hr. from *Tiefenkasten* reaches *Schweiningen* (4,059'), at the W. base of the *Piz St. Michael* (10,371'), and opposite the opening of *Val Nundro*, a long and narrow glen, through which an unfrequented path mounts SSW. to the *Aversthal*.

About ½ hr. farther on is *Tinzen* (4,229'), with one or two poor (?) country inns, the home of a famous chamois-hunter named *Spinax*, much respected in this valley. E. of the village is the opening of *Val Err*, interesting to the mountaineer as well as the geologist, as it divides the granitic group of the *Piz d'Err* from the three remarkable dolomitic peaks—*Piz d'Aela* (10,893'), *Tinzenhorn* (10,276'), and *Piz St. Michael* (10,371'), very difficult of access, and so sharp that little snow can rest upon them. They have all been climbed since 1865. Many details, chiefly geological, respecting the *Piz d'Err* and neighbouring ridges is given by

Professor *Theobald* in the '*Jahresbericht des Naturforschender Gesellschaft Graubündens*' for 1860–1861. [A path mounts from *Tinzen* by the rt. bank of the torrent issuing from *Val Err*, and on reaching the upper level of the valley crosses to the l. bank. Grey slate is the prevailing rock, but serpentine appears at many points on the l. bank. At a group of *châlets* (6,385'), the main branch of the *Val Err* mounts SE. to the glacier-covered ridge that closes its head. In that direction a difficult pass into *Val Bever*, at least 10,000 ft. in height, was made by *MM. Studer* and *Escher*. A shorter branch of the valley leads a little N. of E. from the *châlets* by a tolerably easy pass immediately on the S. side of *Piz d'Aela* to the track of the *Albula*, which is reached about 1 hr. above *Bergün*.]

The high road mounts from *Tinzen* in about 2 m. to *Roffna*, and soon after crosses for the first time to the l. bank of the *Oberhalbstein Rhein*, and reaches *Molins*—*Germ. Mühlen*—4,793 ft. above the sea (*Balzer's Inn*, comfortable, civil landlord), a good station for a mountaineer or a naturalist. In the immediate neighbourhood rise several of the highest peaks of this district. On the opposite side of the valley two torrents descend from the *Piz d'Err*, but it does not appear that the summit has been reached from this side. The *Piz d'Err* includes three principal peaks—the northern (11,139'), which is the highest by a few feet; E. of this, overlooking the head of *Val Bever*, is a lower peak (10,699'); and S. of the first is the second in height (11,132'). To the S. of *Piz d'Err* is the *Cima da Fliz*, also including three peaks, of which the two highest—(10,947') and (10,787')—lie close together, and a southern summit (10,519') rises at the head of *Val d'Agnelli*. According to *Theobald*, the *Cima da Fliz* may be reached from the southern of the two glens opening opposite to *Molins* (*Val Fliz*?), or from a SE. arm of the same glen, called

Val Savriez, and from hence the S. peak ('eastern peak,' Theobald, but ?) of Piz d'Err is reached without further difficulty by the snowy ridge connecting them. A western promontory from Piz d'Err terminates in the *Piz Cucarné* (8,924'). Here, about the junction of the serpentine with metamorphic slates, the botanist may find *Ranunculus parnassifolius*, *Dianthus glacialis*, and *Lychnis alpina*.

Molins stands at the junction with the Oberhalbstein Rhein of a torrent issuing from the *Val Faller*, which here opens to the SW. On the NW. side of this glen is a high and rugged ridge crowned by the *Piz d'Arblasch* (10,512'), and the *Piz Forbisch* (10,689'). But these are surpassed by the adjoining peak of the *Piz Platta* (11,109'). Rather more than 1 hr. above Molins the Val Faller divides into two branches at the châteaux of Plan (6,342'). One branch of the valley, called Val Gronda, passes on the N. side of the Piz Platta which is (?) accessible from this side. The other branch—Val Bercla—mounts due S. on the E. side of Piz Platta and of the *Fopperhorn* (10,371'). Juf, in the Aversthal (Rte. K), may be reached from the head of Val Bercla by a rather high, but not difficult pass. It is also possible to reach Cresta, lower down in the same valley, by a much more arduous pass between the Piz Platta and the Fopperhorn.

A short way from Molins the road returns to the rt. bank of the Oberhalbstein Rhein, now reduced to the condition of a mountain torrent, and mounts beneath the ruins of Splüdsch to *Marmorera*, or Marmels (5,361'), a village about 1 hr. from Molins, standing below the remains of two castles, one of them perched on a seemingly inaccessible rock. A Lombard dialect of Italian is spoken in the upper part of the valley. *Bivio* (5,827'), also called Stalla, the highest village of Oberhalbstein, stands, as the name imports, very near the junction of the tracks leading to the Julier and

Septimer passes. The Oberhalbstein may be said to terminate at the base of the *Roccabella* (8,940'), SE. of Bivio. The track of the Septimer, leading to Val Bregaglia (Rte. I), mounts thence to SSW. through the Val Cavreccia, while the high road to the Julier lies due E., through a wild and somewhat dreary upland valley, between the Gravasalvas range to the S., and the Julier range, extending from the S. point of the Cima da Flix to the *Munteratsch* (11,106'). Two glens descend from the last-mentioned range towards the high road. That on the W. side of the pass is called *Val d'Agnelli* on the Swiss Federal map, and the other on the E. side is apparently known also by the same name. Casanna slate and verrucano appear in the latter glen, and may be traced eastward to the neighbourhood of St. Moritz and Sarnaden. The diligence employs 2 hrs. from Bivio to reach the summit of the

*Julier Pass* (7,503'). Before doing so, the road passes a small group of houses called Vedutta, at the opening of the western Val d'Agnelli. There is here a tolerable mountain Inn, which affords convenient quarters for a naturalist. Though higher than most of the alpine passes practicable for carriages, the Julier is one of the easiest and safest. It is remarkably free from avalanches, and the snow is said to melt here earlier in the spring than is usual at so great a height. On this account the pass has been known and used from the earliest times. The Romans, under Augustus, carried a military road from Chiavenna over the Maloja to Silvaplana, and thence over the Julier, in preference to the much more direct route of the Septimer; and the same course was commonly followed during the Middle Ages, when this was the most important commercial road from N. Italy to the L. of Constance. The present carriage-road was constructed in 1823, but for several years it was little frequented, owing to the neglected condition of the lower portion through the Oberhalbstein valley. It is now

in good order; but since the completion of the Splügen road it has ceased to be used for traffic between Coire and Lombardy. On the E. side of the summit are two roughly hewn columns which have furnished matter for much controversy. They have been by some attributed to Julius Cæsar, whose name would thus be connected with that of the pass; but others refer their origin to the Celts, and the name to a Celtic deity, Jul.

The road descends gently towards the E. until it reaches the slope overlooking the head of the Engadine, when some zigzags, cut off by the footpath, lead down to

*Silvaplana* (Inns: Wilder Mann; Kreuz). This village, and the road by St. Moritz to Samaden, are described in § 36, Rte. A.

#### ROUTE B.

##### THISIS TO TIEFENKASTEN.

4 to 5 hrs. walk. New post-road.

The road here described offers a far more interesting way for approaching the Julier, or the other passes described in the following Routes, than the high road from Coire to Tiefenkasten (Rte. A). There is the further inducement, that a traveller who has not already seen the Via Mala may visit that remarkable defile and return to Thisis on the first day from Coire, joining the Julier road, or that of the Albula, early on the following day by a highly picturesque and agreeable path. A post-road from Thisis to Tiefenkasten along the l. side of the Albula was opened for traffic in 1869. The track by the rt. side of that stream noticed below is more interesting. The name Schyn Pass, often applied to it, is incorrect. The *Schyn* is the extremely steep and narrow ravine cut by the Albula in its descent to join the Hinter Rhein, and until the new road was made it was necessary to ascend to a great height above the stream, and then descend to Alvaschein.

The new road descends from Thisis

to cross the Nolla and the Rhine and then turns N., ascending gently to Sils. Beyond this the road passes two ruined castles, and winds upwards through forest, with occasional views of the defile on the l. through which the Albula descends to join the Rhine. As the mountains close together on either side the difficulties of the engineer increased, and several short tunnels are traversed before the road crosses the *Solisbrücke*, about 410 ft. above the Albula torrent. The new bridge replaces an older structure on the same foundations. The valley now opens out, and the road ascends to *Alvaschein* (3,337'), and amid very pleasing scenery, bears SE. till it joins the main road from Coire (last Rte.) opposite to Tiefenkasten.

The track by the rt. bank of the Albula is more attractive to a pedestrian.

Crossing the Rhine opposite Thisis, and avoiding the village of Sils, the way lies across a bridge over the Albula to *Scharans*, nearly 1 hr. ascending from Thisis. The village Inn commands a beautiful view of the Rhine valley. There is here a very ancient lime-tree, adorned by a rudely-carved image of the mythical king Rhætus, who is not unfrequently transformed by the country people into a saint. On the opposite side of the gorge of the Albula are the ruins of Campi, often visited from Thisis (§ 31, Rte. A.). The path from Scharans mounts partly through wood, partly along the face of rocks, till it reaches a height of 1,600 or 1,800 ft. above the Albula. A considerable détour is necessary to cross the ravine cut by the torrent from the Vatzler See (Rte. A.), a little below the village of *Obervatz*, and an oratory is passed that commands a fine view to the W. On reaching the village of *Alvaschein* (3,337'), the traveller bound for the Julier road should descend to Tiefenkasten. Should his direction be to the Albula or Davos, he should mount gently along the slope of the mountain to Vatzlerol, and thence by Brienz to Alveneu.

## ROUTE C.

## COIRE TO SAMADEN, BY THE ALBULA PASS.

Carriage-road Diligence daily in 12 hrs.

An active traveller starting from Coire by the diligence at 5 A.M., may leave the high road at Alvèneu, and reach Samaden as soon as the diligence. The new road is well made, but the ascent is long and steep; so that an active walker will accomplish the distance between Bergün and Ponte in less time than a carriage. It is wiser to take advantage of the diligence as far as Alvèneu, or even Bergün, as in fine weather the slopes between those places are extremely hot. A two-horse carriage from Coire to Samaden costs 120 fr. The foot-path from Lenz (Rte. A), and the char-road which turns off near Vatzèrol, pass along the slopes N. of the Albula to Brienz, and then below the very picturesque ruins of the castle of Belfort. Leaving to the l. the road to the village of the same name, the road to Bergün descends to the *Baths of Alvèneu*, on the rt. bank of the stream. There is here a rather rough but clean-looking bathing establishment for the patients who frequent the sulphureous waters that have given this place a local celebrity. Some unusual plants, such as *Astragalus monspessulinus*, *Tommasinia verticillaris*, and *Centuurea rhætica*, show the warmth of the climate of the valley. A short way above the Baths the char-road crosses the considerable stream of the Landwasser, issuing from the valley of Davos (Rte. D), and then mounts gently in about 1 hr. from the Baths to Filisur (3,474'), a pretty village with a country Inn, standing under the imposing ruins of Greifenstein.

Mines of silver, copper, and iron have been worked in the neighbourhood. A glen lying S. of the village, called *Val Sparlotsch*, leads up to a hollow between the Piz d'Aela and Tinzenhorn. An interesting walk might probably be made by crossing the ridge between those peaks, and descending through the Val Err to Tinzen (Rte. A).

Above Filisur the valley contracts, and the road passes to the l. bank of the Albula, but does not begin to ascend rapidly till after passing some abandoned smelting-houses at a place called Bellaluna. Here the paved track, still passable for light charrs, enters a very picturesque defile, called Bergünèr Stein. It has been compared to the Via Mala, with which it has nothing in common except the fact that it is a defile. The finest part is above a bridge where the road returns to the rt. bank, and is carried for nearly  $\frac{1}{2}$  m. along the face of the nearly vertical rocks. Nearly 2 hrs. from Filisur are required to reach the point where in an opening of the valley stands the mountain village of

Bergün (4,557'). Excellent quarters are found here at the house of the Landamman Cloeta, now opened as a regular inn (zum Piz d'Aela). The position of this village has many attractions for the mountaineer. To the SW. rises the very bold dolomite peak of the Piz d'Aela (10,893'). To the E. is the opening of *Val Tuors*, which deserves more attention than it has yet received. The lower part commands very fine views, especially of the Piz d'Aela, while the upper end leads to some of the highest peaks of this group.

[There is a rough track, passable for charrs, as far as the hamlet of Ponte d'Alp, 2 hrs. from Bergün. Here Val Tuors divides: a NNE. branch mounts between the *Piz Forum* (10,010') and a steep ridge whose highest summit is the *Hoch Ducen* (10,082'), and leads to the lakes of Raveischg (Rte. H), by which the traveller may descend into



Val Sulsanna, or reach Davos Platz, by the Sertig Pass. In the opposite direction another branch of Val Tuors leads to *Piz Uertsch* (10,738'), seemingly accessible from this side. The E. branch of Val Tuors, called Salüt on the Federal Map, is probably the most interesting. The torrent flows from the *Vadred da Porchabella*, a large glacier on the N. side of *Piz Kesch* (11,211'), which also feeds the torrent at the head of Val Sulsanna. The remarkable tower-like peak of *Piz Kesch* was attained, in 1864, by Messrs. Tuckett and Fowler, with C. Michel and M. Payot. From the Platzli châteaux 2½ hrs. above Bergün, they reached in 3½ hrs. the ridge above the V. da Porchabella, overlooking the head of the Eschia Glacier. From this—called *Eschia Pass*—they afterwards descended in 3 hrs. to Ponte. From the same point they reached the peak in 1½ hr. A rather lower point had been previously attained by M. Coaz.]

Above Bergün the ascent by the new road to the Albula begins. To the l. is passed the opening of *Val Tisch*, leading up to some abandoned iron mines high up on the NW. side of *Piz Uertsch*. Fully 1 hr. above Bergün, the road crosses to the l. bank, at a point where an opening in the range to the W. leads up to a depression, or col, S. of *Piz d'Aela*, leading by Val Err to Tinzen. At the châteaux of Naz (5,725'), the wild glen of *Muglix* opens to SW., and the road of the Albula turns eastward and maintains that direction till it enters the Engadine at Ponte. After passing several châteaux, the traveller in 2½ hrs. steady walking from Bergün reaches *Weissenstein* (6,824'). A new inn has been opened here, which may attract mountaineers and botanists by the many rare plants found in the neighbourhood of the pass. Of these the following deserve to be noted:—*Lychnis alpina*, *Oxytropis lapponica*, *Saxifraga planifolia*, *Senecio carniolicus*, *Crepis hyoseridifolia*, *Campanula cenisia*, *Polemonium caeruleum*, *Kobresia curicina*, and *Carex irrigua*. The small

lake near the inn, which is the chief source of the Albula, formerly produced excellent trout, but they have disappeared since it has been drained to utilise some peat on its shores. Above the *Weissenstein Inn* the scenery is very wild, and the new road makes a wide sweep to the rt. Towards the upper part of the pass it lies amidst scattered blocks of stone, where scarce a trace of vegetation remains in view, with patches of snow on the slopes to the rt.

The *Albula Pass* (7,589') and the valleys leading to it on either side form a long furrow between two parallel ranges, of which the higher northern ridge, crowned by *Piz Uertsch*, is chiefly formed of sedimentary rocks, the main peak being composed of dolomite. The southern ridge is a promontory from the mass of *Piz d'Err*, separating the Albula from the Val Bever. It is mainly composed of gneiss or granite, but the summit immediately S. of the pass, called *Piz Giumels* (9,623'), contains a considerable mass of white gypsum, which is supposed to have originated the name of the pass. There is no difficulty in crossing the ridge due S. of the *Weissenstein Inn*, leading to Bevers through Val Bever (§ 36, Rte. C), a shorter and more interesting mountaineer's route than that by Ponte. *Piz Uertsch* is said to be easily accessible from the summit of the Albula, but the Editor has no account of the expedition.

The descent from the Albula Pass lies for some way on the S. slope of the upland valley, and is at first rather gentle. Lower down it enters larch woods, and lies for the most part on the l. bank of the torrent. 1½ hr. suffices to reach the main valley of the Engadine at

*Ponte* (5,548'). This village, and the road between it and Samaden, are described in § 36, Rte. A.

## ROUTE D.

## LENZ TO KLOSTERS, BY DAVOS.

	Hrs. walking	Eng. miles
Alveneru . . .	1½	5½
Wiesen . . .	1½	5½
Glaris . . .	2½	6½
Davos am Platz . .	2	6
Klosters . . .	2½	8½
	<hr/> 10½	<hr/> 31½

In the preceding Rte. and in Rte. A, the two branches of the Albula stream that lead to the valley of the Inn have been described; it is now necessary to notice the third of the main branches of the same stream which drains a considerable valley parallel to that of the Inn, but flows in an opposite direction—from NE. to SW. This valley, named *Davos*, meaning behind, or 'at the back of the world,' is said to have been discovered in the 13th century, and colonised by settlers from the Upper Valais. It is connected with the main valley of the Albula by a narrow and difficult defile, through which the Landwasser descends to join that stream; but the easiest access is by the road across a low pass connecting the head of the valley with Klosters in the Prättigau.

The road between Lenz and Platz has been improved of late years, but is, in places, rough and narrow. It is practicable for a light char, here called *bergwagen*, but little, if any, time is gained. It is not always too easy to find a vehicle at Lenz. A pedestrian, profiting by short cuts, may much reduce the distance between Alveneru and Glaris.

After reaching Brienz, the next village to Lenz (noticed in Rte. C), the traveller should choose the road to the l., keeping at a considerable height above the river, instead of descending to the baths, and in about 1½ hr. from Lenz will reach *Alveneru* (4,344'). The church is a curious specimen of *renaissance* architecture, and contains some good specimens of early wood-carving. Standing on a steep slope, 1,100 ft. above the river, the village commands a very fine view

of the peaks to the S. The road into the Davos valley traverses *Schmitten* and *Wiesen*, both standing at a great height above the bottom of the valley. It winds along the mountain slopes, making every now and then a considerable circuit in order to cross the deep furrows excavated by torrents.

*Wiesen*, with good rustic quarters at the house of *Palmi*, stands at 4,770 ft., opposite to *Jenisberg*, a village at a still higher level above the l. bank of the Landwasser. Though little more than a mile apart, it takes fully an hour to follow the path to that place across the valley, where a fine new bridge spans the torrent at 256 ft. above the water. From *Jenisberg* the traveller in search of a view may ascend the *Stulsergrat* (8,471') and descend by its W. side to *Filisur*. It is not a much longer course for a pedestrian bound for the head of the valley to pass by *Jenisberg*, and descend thence to *Schmelzboden*, than to follow the char-road by the rt. bank. This pursues a very circuitous course, winding round three deep ravines cut by lateral torrents, before it gains a projecting buttress which commands a fine view of the valley, and whence it descends by zigzags to the level of the Landwasser. The torrent is crossed and recrossed, and after passing some abandoned smelting-works at *Hofnungsau*—the place is best known as *Schmelzboden*—the road begins to ascend along the l. bank through the narrow defile leading to *Glaris* (4,770'). Another more interesting way from *Wiesen* to that village, practicable only on foot, is by a path along the steep slope above the rt. bank, turning out of the char-road near the point where it begins to descend towards the Landwasser. This track is feared in winter and spring on account of avalanches, but is quite safe in summer, and commands fine views. Through the *Bärenthal*, a lateral glen opening W. of *Glaris*, it is not difficult to reach *Arosa*, mentioned in next Rte. Above *Glaris* the road ascends gently along the rt. bank. On the opposite bank is a

small bathing establishment called *Spina Bad*, intended for patients who use the waters of a sulphureous spring which breaks out on the slope of the mountain 1,000 ft. higher up. About 1 hr. above Glaris is *Frauenkirch*, where the Sertigthal (Rte. H) opens to SSE., and a path from Arosa, by the *Mayenfelder Furka* (8,022'), descends into the Davos valley. A walk of 1 hr. more leads to the principal village in the valley, 5,105 ft. above the sea. It is here known as Platz, but as that name is commonly applied in the Grisons to indicate the chief village or hamlet of a valley, it is called, when spoken of elsewhere,

*Davos am Platz* (Inns: Schweizerhof; Post; Curhaus; all very fair, the first two new; Zum Strela, rustic, not bad; restaurant in the Rathhaus). The head of the Davos valley is a purely pastoral district, surrounded by mountains about 9,000 ft. in height. The scenery is very pleasing, though not of the first order, and as many upland valleys converge at this point, many excursions are open to the mountaineer. 'The Rathhaus,' until lately the only inn, 'was formerly decorated with more than thirty wolves' heads slain in the neighbourhood—proof of the prevalence of these animals. A wolf-net (Wolf-garn) is still hung up here, but the animals have nearly disappeared.' [M.] The path of the Strela leading hither from Coire is described in the next Rte., and the passes into the Engadine by the Fluela, Scaletta, and Sertig Passes will be found in the following Rtes.

The most interesting excursion from Platz is the ascent of the Schwarzhorn, described in Rte. G. A shorter and easier walk is the ascent of the Weissfluh. There are two peaks bearing the same name, about equally near to Platz, the one on the N., the other on the S. side of the Strela Pass. The higher and more interesting of the two is that on the N. side. The way is by the road to Klosters, until after passing the Schiabach, and reaching the hamlet of

Dörfli, when the course lies to the L., up the slopes of the Dörfliberg. On reaching the middle region of the mountain the way is about WNW., through a stony glen. From the ridge at its head, the summit of the *Weissfluh* (9,262'), formed in part of gypsum, whence the name, is seen nearly due W., and is reached without difficulty by crossing a slight depression and mounting over snow-beds.

About 1½ m. N. of Platz is the hamlet of Dörfli, known elsewhere as *Davos Dörfli* (two tolerable Inns), prettily situated in the midst of green meadows, and but a short way from the *Davoser See* (5,121'), a mountain lake producing excellent trout. The way to Klosters is by a good new road on the W. side of the lake, which then mounts to a very low and easy pass, sometimes called *Laret Pass* (5,338'). The summit is reached at a solitary mountain inn called St. Wolfgang, and the descent, after passing a little dark tarn near which are the chalets of Laret, keeps due N. along the rt. bank of a mountain stream to *Klosters* (§ 34, Rte. D).

## ROUTE E.

### COIRE TO DAVOS AM PLATZ, BY THE STRELA PASS.

4 hrs. to Langwies. 6 hrs. thence to Davos am Platz.

It has been seen, in the foregoing Rtes., that the drainage of the Davos valley, being poured into the Albula, and then into the Rhine, reaches Coire by a very circuitous course, fully three times the actual distance between that town and the head of the valley. The traveller may avoid that circuit, and enter Davos from Coire by a very direct course, through the populous valley of *Schanfigg*, and over the Strela Pass. The course here described lies through much agreeable and picturesque scenery, but the ascent from Coire is

long and becomes somewhat monotonous, so that it is probably a better arrangement, when practicable, to take the pass in the opposite direction.

From the summit of the Strela Pass, the main branch of the Schanfigg valley, drained by the *Plessur*, falls due W. to the village of Maladers above Coire. It is one of the most populous in the Alps, being crowded with villages, hamlets, or scattered houses, perched on steep slopes at a great height above the torrent, especially on the northern sunny declivity. The mountains on either side are furrowed by many deep ravines, and the paths leading up the valley, and connecting the villages together, are forced to make many détours. This circumstance much increases the time necessary for reaching the pass, which looks deceptively near from the neighbourhood of Coire, but at the same time adds variety and interest to the scenery.

Those who would shorten the day's walk may reach the village of *Tschierschen*, on the S. side of the valley, in a light char, in 2 hrs. from Coire, and continue their rte. by a footpath on the l. bank as far as Molins, where it crosses the Plessur and mounts to Peist. For pedestrians, the way along the N. side of the valley is to be preferred.

The path mounts rapidly to the village of *Maladers* (3,287'), from which the col is plainly visible, but its apparent proximity is most deceptive. Thence the traveller's course is along the hill side, high above the rt. bank of the Plessur, making numerous long dips into the lateral ravines, and rising and falling perpetually. The path is well made, almost approaching the dimensions of a char-road, and carried mostly through luxuriant pine woods, which afford a grateful shade. When two or more paths diverge, it is safe, as a general rule, to take the lower or rt.-hand one. Passing through Castrel and St. Peter's, the village of *Peist* (4,383') is reached in 4½ hrs.' steady

walking from Coire. There is a small inn on the l. hand side of the path, just above the public fountain, where two clean beds, scanty food, and fair red wine may be obtained. The carved inscriptions on the houses here are the best in the valley. It is a hot and shadeless walk of 1½ hr. to *Langwies* (4,518'), the last village (with a poor inn), where, for the first time since leaving Coire, the traveller is on a level with the bed of the stream.'—[A. W. M.]

Here the Plessur is formed by the junction of several mountain torrents. The principal stream descends NE. from an upland glen nearly 8 m. in length, forming an acute angle with the course of the main valley. At the extreme SW. end of this glen, a wild and solitary ravine called *Welsch Tobel*, it is possible to cross the ridge, and descend upon Alveneu. There are also passes to the SE. leading to *Frauenkirch* by the *Mayenfelder Furka* (8,022'), and to Glaris by the *Bären Tobel*.

[In a lateral opening on the W. side of the *Welsch Tobel* is *Arosa* (6,208'), one of the highest hamlets in this part of the canton, where potatoes are still cultivated. Rough quarters for the night may be obtained at the house of Obmann Hold. Several mountain excursions interesting to the geologist and the botanist may be made from Arosa. The most interesting to the mountaineer is towards the SW. by two mountain tarns, the *Schwelli See* and *Älpli See*, to the summit of the *Schöne Bleise* (9,794'), lying at the SW. extremity of the upland glen containing those little lakes. The adjoining summit of the *Parpaner Rothhorn* (9,518') may be ascended, and the traveller may descend to Parpan, on the road from Coire to Lenz (Rte. A). Another excursion, which will well reward the botanist, is to the red sandstone summit of the *Sandhubel* (9,075'), on the E. side of the *Welsch Tobel*, reached through a recess in the hills called *Teufenberg*. It is easy to descend from the ridge to

Wiesen in Davos (Rte. D). To reach Coire from Arosa, the geologist may best ascend by the Sattel Alp to a summit called *Weisshorn* (8,701'), NW. of the village, and not to be confounded with a higher peak of the same name due E. of Parpan. Serpentine and dolomite are the prevailing rocks in the range NE. of Arosa, which is sometimes known by the collective name *Churer Alpen*.]

A little above Langwies a tributary of the Plessur descends from the NE. through a glen called Fundey, through which it is not difficult to reach Coners and Küblis in the Prättigau (§ 34, Rte. D). The way to Davos mounts about due E. from Langwies along the rt. bank of a stream descending from the pass, through wild and pleasing scenery.

'The path becomes vague in places, but it is not possible to go far wrong, and in 1 hr. the chalets of the Schmitten Alp are reached, where milk may be procured. From hence the track nearest the stream should be kept, until above the last chalets on the Haupten Alp, when it is necessary to cross to the l. bank, and the last ascent commences. This from below appears to be rather troublesome, but is, in fact, perfectly easy. The path is very faint, but sufficient to mark the way, which lies over steepish banks of shale, interspersed with patches of snow, until, in 2 hrs. from Schmitten, the *Strela Pass*, a broad ridge 7,799 ft. above the sea, is surmounted. The prospect, looking back right down the long smiling valley, backed by the mountains beyond the Rhein Thal, is pleasing, while in front there is an extensive view of the Scaletta and Albula Alps. The most conspicuous are, in front, the *Weisshorn* and *Schwarzhorn* beyond the Davos Thal, with the dark pyramid of the *Piz Linard* peering over them, and, on the rt., a fine snowy mass, probably the *Piz Kesch*, towering above a considerable glacier. The descent is straight forward and very gentle, as far as the

*Strela Alp*, where a view is opened out down the Davos Thal, beyond the extreme end of which is seen a group of peaks, the chief of which—*Piz d'Aela*—bears a striking resemblance, on a small scale, to the *Matterhorn*.' [A. W. M.]

At the *Strela Alp* one path descends direct to Dörfli (Rte. D) and another bearing to rt. leads, chiefly through forest, in 1 hr. from the pass, to Platz.

### ROUTE F.

#### DAVOS AM PLATZ TO SÜS, BY THE FLUELA PASS.

New road, about 22 m. No public conveyance. Vehicles may be hired from the post-master at Platz.

Three nearly parallel lateral valleys enter Davos near to the principal village, Am Platz, and each is connected with a pass leading into the Engadine. In each of them the torrent, which had flowed about due NNW., is bent to the westward as it approaches its junction with the Landwasser. Thus the stream from the Sertigthal (Rte. H), the westernmost of these valleys, is poured into the Landwasser at Frauenkirch. Next comes the Dischmatal (Rte. G), whose torrent enters the main valley a short distance above Platz, while that issuing from the glen called Fluela joins the Landwasser at Dörfli. The ridge dividing Fluela from Dischma, culminating in the *Schwarzhorn*, is a promontory from the mass of the Scaletta Alps. Hence it happens that the first of these glens leads by the Fluela Pass to the Engadine at Süs, while the line of the Dischmatal, Scaletta Pass, and Val Sulsanna, conducts the traveller by the S. side of the same group to Capella in the Engadine, fully 12 m. higher up in the valley of the Inn than Süs.

The new road over the *Fluela Pass* is a considerable short cut for travellers

from the North going to the Lower Engadine. It is announced that in the summer of 1873 a diligence will run direct from Landquart to Tarasp. See § 34, Rte. D.

The road enters the Fluela valley at Dörfli, and ascends, chiefly through forest, on the rt. side of the torrent. About  $1\frac{1}{2}$  hr. from Platz is a new rustic inn (Alpenrose?), and  $\frac{1}{2}$  hr. farther another very poor hostelry at Tschuggen, about half-way to the top. The remainder of the ascent is wild and rather dreary, the stream being crossed and recrossed several times.

The summit of the *Fluela Pass* (7,891') is close to two small tarns, called Schotten See. Here is a little mountain inn, convenient for the ascent of the Schwarzhorn, now a common excursion. To the N. is a peak called *Fluela Weisshorn* (10,135'), to distinguish it from many other Weissorns in the same district, separating the pass from the head of the Vereina-thal (§ 34, Rte. D), while to the S. rises the Schwarzhorn (10,338'), which may be ascended from this side as easily as from Dürrenboden (Rte. G). The descent to Süs lies due E.; the road winds down a rather steep slope, keeping chiefly to the l. bank of the torrent, and passing a place called Bei den Kehren, feared for spring avalanches. Before long an alpine glen opens to the S., through which the torrent from the *Grialetsch Glacier* descends into the head of *Val Susasca*, as the valley is called that leads to Süs. Keeping to the l. bank, the road is joined, above half way down the Val Susasca, by the path descending Val Fless from the Vereina Pass (§ 34, Rte. D), and finally crosses to the rt. bank immediately above the village of Süs (§ 36, Rte. A). The traveller there finds a tolerable country inn, or may procure a vehicle with which to push on to the Baths of Tarasp.

### ROUTE G.

DAVOS AM PLATZ TO SCANFS, BY THE  
SCALETTA PASS — ASCENT OF THE  
SCHWARZHORN.

This is an uninteresting pass unless, as is quite possible, the ascent of the Schwarzhorn be combined with it; but it is useful, as affording the shortest route from Davos to the Upper Engadine. There is a char-road up the Dischma Thal to Dürrenboden; a drive of  $2\frac{1}{2}$  hrs., or walk of 3 hrs., thence over the pass to Scanfs in the Engadine is 5 hrs.' walking. For the ascent of the Schwarzhorn 4 hrs. must be added.

The *Dischma Thal*, which opens out to the SE., a little above Am Platz, is a long dreary valley, almost devoid of interest. It is closed at its head by the considerable mass of the Scaletta Glacier, which, with the dark obelisk of the Schwarzhorn on the E. side of the valley, will probably absorb the attention of the traveller.

*Dürrenboden* (6,644') consists of a few huts, in one of which, more respectable than its neighbours, fair quarters for a night, and abundance of milk, may be had. Above this the valley forks. To the left, passing between the Schwarzhorn and the foot of the Scaletta Glacier, which comes down from the *Piz Vadred* (10,610'), lies the way by the rarely-traversed *Grialetsch Pass* to Süs in the Engadine; the ascent to it appears quite easy. The path to the Scaletta Pass keeps to the rt., over steep slopes of rock and shale, mounting rapidly until an extensive plateau is reached, which early in the season is covered with snow. The pass is seen straight in front, and to reach it there is a choice of two tracks; one, on the l. or W. side of the valley,

under the *Bucktenhorn* (10,038'); the other, on the rt. side, along the base of the cliffs supporting the Scaletta Glacier. The latter appears preferable, but by either a considerable tract of snow must be crossed before reaching the pass, 8,613 ft. in height, in  $1\frac{1}{2}$  hr. from Dürrenboden. There is a small Berghütte, or refuge, on the summit, the appearance of which is the reverse of inviting. In neither direction is there much view; in fact few passes of the same height are so devoid of attraction. The descent into the Sulsanna Thal is due S. over gentle slopes of shale varied with patches of snow, until the Fontana Alp (7,212') is reached. From hence, by following the arm of the valley to the rt., Davos or Bergün may be reached by the Sertig Pass (Rte. H). The path to the Engadine turns sharp to the l., and leads by a rapid descent to the lower valley. The torrents from the glaciers of the Piz Kesch, on the S. side of the valley, are troublesome to cross when swollen. The *Val Sulsanna* is a degree more interesting than the Dischma Thal, not being quite so bare of vegetation, but presents no features likely to detain a traveller. It is traversed by a good path, which, after passing through Sulsanna (5,486'), the only village, falls into the great diligence-road, traversing the Engadine, at Capella, about 35 min. below Scans, which is reached in  $3\frac{1}{2}$  hrs. from the col. Although the track from Dürrenboden to the Fontana Alp is ill traced, no guide is needed for this pass in clear weather. *Scans* (Inn: Traube) is noticed in § 36, Rte. A.

*Ascent of the Schwarzhorn.* The ascent of the Schwarzhorn (10,338') may be made from Dürrenboden in  $2\frac{1}{2}$  hrs. There are few points of the same elevation, accessible in so short a time, from which so gorgeous a panorama may be obtained, but the expedition is as yet little known. No guide is required by a practised mountaineer, for although the ascent from below looks awkward, it is in reality quite

free from difficulty. 'Crossing the Dischma Bach, the steep grass slopes on its rt. bank are climbed, for 1 hr. bearing rather to the l. Then straight running should be made for a slight depression on the southern ridge of the mountain, considerably below the summit. Particular care should be taken not to endeavour to strike this too high, and so get too much under the actual peak, the western face of which is very precipitous, though quite accessible to a good cragsman. The rte. lies over banks of snow, succeeded by a steepish rock chimney, above which easy slopes of shale lead to the broad grat, looking down upon the Schwarzhorn Glacier and the track of the Fluela Pass. Turning to the l., this grat must be followed, until, after passing over alternate slopes of rock and snow which are neither steep nor present any other difficulty, the summit is reached. This is a very small rocky point, and falls away steeply on all sides, except that by which it has been approached. The view is of the most superb character, especially looking E. along the whole range of the Tyrolean Alps from the Ötztal group to the Ortler; and S., where the great chain extending from the Bernina Pass to the Lake of Como is seen right opposite to the spectator, and therefore probably to greater advantage than from the better-known Piz Languard, where the same view is seen sideways, the great mass of the Bernina shutting out the rest of the chain. Of single peaks, the Piz Bernina, Piz Roseg, and Monte della Disgrazia are most conspicuous, the latter towering above the vast expanse of the Roseg Glacier. But the whole scene is indescribable, and must leave an indelible impression on the mind of every one fortunate enough to be favoured with a clear day. The descent to Dürrenboden may be effected in  $1\frac{1}{2}$  hr.' [A. W. M.] The traveller must not confound the Schwarzhorn here described, which might conveniently be called Scaletta Schwarzhorn, with the higher peak of the same

name in the central group of the Silvretta Alps (§ 34, Rte. E).

The ascent of *Piz Vadred* (11,610') is far more difficult than that of the Schwarzhorn. The second peak was reached for the first time by Mr. Freshfield; and the western point, higher by 30 ft., by MM. Hartmann and Fitch, in 1867. Starting from Dürrenboden with Jenni and Stiefel, a very active climber from the Dischmatal, they encountered no real difficulty until they reached the base of the highest peak, which involved two hrs.' of very stiff, if not dangerous, rock-climbing.

Mr. Girdlestone has effected a pass, suggested in the second edition of this work, from Dürrenboden to the Engadine by the Grialetsch and Sursura Glaciers.

### ROUTE H.

#### DAVOS AM PLATZ TO SCANFS, BY THE SERTIG PASS.

About 8½ hrs.' walking, exclusive of halts.

The Sertigthal is the most interesting in point of scenery of those leading from Davos to the Engadine. A rough char-road turns aside from that leading from Platz to Frauenkirch (Rte. D), and mounts along the rt. bank of the torrent to Dörfli (6,102'), the highest hamlet of the Sertigthal, about 2½ hrs. from Platz. A little higher up the valley forks. One branch, called *Ducanthal*, mounts to SW. by the W. side of the *Hoch Ducan* (10,082'), to a pass between the Ducan range and the *Krachenhorn* (9,495'), whence the *Stulserthal* descends in the same direction to Bellaluna on the Albula road above Filisur (Rte. C). The other branch of the Sertig—the *Kühalpthal*—is that leading in about 4½ hrs. from Davos to the

*Sertig Pass* (9,062'), lying immediately W. of the *Kühalpthalhorn* (10,125'). It commands a very fine view of the Piz Kesch and the great Porchabella Glacier on its N. slope. The ascent of this, the highest peak N. of the Engadine, long deemed inaccessible, is noticed in Rte. C. About ¼ hr. below the Sertig Pass are the Lakes da Raveischg, a group of small lakes occupying the summit level of a ridge connecting the head of *Val Tuors* with the *Val Sulsanna*. The way to the Engadine lies to the l. through the latter valley, while it is equally easy to reach Bergün on the road of the Albula by bearing to the rt., and reaching the char-road at Ponts d'Alp (Rte. C). The descent to Val Sulsanna is ill traced, but nowhere difficult, provided the traveller keep to the l. bank of the stream. On the opposite side, a considerable torrent from the Vadred da Porchabella enters the valley. In about 1½ hr. from the top of the pass the path joins that from the Scaletta Pass at the Fontana Alp, mentioned in the last Rte., and descends to Capella in the Engadine.

### ROUTE I.

#### BIVIO TO CASACCIA, BY THE SEPTIMER PASS.

4 hrs.' walking.—A paved bridle-track.

In the preceding Rtes. the mountain ranges and passes between the Rhine and the upper valley of the Inn have been described. It is now necessary to notice those lying between the Hinter Rhein and the Val Bregaglia. The last-named valley is orographically a continuation of the great line of depression marked by the valley of the Inn, but its waters, instead of being carried



through that river into the Black Sea, form the Mera, and help to fill the basin of the Lake of Como.

The *Septimer Pass*, connecting the head of the Oberhalbstein (Rte. A) with that of Val Bregaglia, is, next to the Splügen, the lowest and most direct of those connecting Lombardy with the Lake of Constance, and as before the construction of the present carriage-road by the Splügen, it was far the safer and easier of access, it became a frequented pass at an early period, and was certainly known to the Romans. But though only 79 ft. higher than the Julier, and shorter by fully 4 hrs., it has always been considered a less safe and easy pass, and more liable to be blocked up by snow in winter; it consequently never attained the commercial importance acquired by the rival pass. The track from Bivio (Rte. A) lies through *Val Cavreccia*, a treeless pastoral valley, that enters the head of the Oberhalbstein above that village. The way is at first along the l. bank, then on the rt. bank of a torrent descending from the range W. of the pass, and the ascent is throughout very gentle, in part over swampy ground. Before reaching the summit, a streamlet descending from the SE. crosses the path. This flows from the *Pizzo Lunghino* (9,121'), forming the SW. end of the range of Gravaservas, not to be confounded with the much higher *Piz Lungen* (10,400'), at the NE. extremity of that range. The *Pizzo Lunghino* and the *Pizzo Pesciora* (§ 30, Rte. D) are the only single mountains in the Alps that feed streams flowing into three different seas. The streamlet above mentioned is one of the sources of the Oberhalbstein Rhine, and goes to the North Sea; the E. side of the *Pizzo Lunghino* supports a mountain tarn that is the highest of the sources of the Inn, flowing to the Black Sea; and the streams from its W. flank pass through the Mera and the Adda to the Adriatic.

The summit of the *Septimer Pass*

(7,582'), reached in rather more than 2 hrs. from Bivio, is marked by a wooden cross, and a refuge, now fallen to ruin, erected for travellers by some former Bishop of Coire. There is a fine view to the S. of the peaks enclosing the Albigna and Forno Glaciers, culminating in the Cima del Largo (11,162'). The descent is more rapid than the ascent, as Casaccia lies more than 1,000 ft. lower than Bivio. The course is due S. until the track falls into an alpine glen, through which the principal source of the Mera descends due E. (nearly exactly contrary to its subsequent direction), to Casaccia, from a group of high peaks, whose highest summits are the *Pizzo della Duana* (10,279') and *Glatscherhorn* (10,190') (Rte. K). The rough-paved track descends in zigzags along the N. side of the Mera, and in less than 2 hrs. from the pass reaches

*Casaccia* (4,790'), described in § 36, Rte. A.

## ROUTE K.

### ANDER TO CASACCIA, BY THE AVERSTHAL.

The Aversthal penetrates deeply into the extensive mountain region lying between the Oberhalbstein and the Hinter Rhein, and unites the drainage of nearly the entire mass in the *Averser Rhein*, or Avner Rhein, which joins the Hinter Rhein a short way above Ander (§ 31, Rte. A). Of the two passes here described, that of the Forcellina is free from difficulty, and the whole distance may be accomplished in one day by a moderately good walker. The way by the Duana Pass is more interesting, but should not be attempted without a guide, and is too long for a single day's walk. The scenery between Cresta and the mouth of the valley is of the highest order, and deserves to be more generally known by tourists. That portion of the way is quite unfit for horses,

the path being extremely rough, and in many cases broken through by the remains of bergfalls and avalanches.

1. *By the Forcellina Pass.*

	Hrs.' walking	Eng. miles
Canicül . . . . .	3	8
Cresta . . . . .	2½	7
Juf . . . . .	1½	4½
Casaccia . . . . .	3½	9½
	11	29

For travellers going from Casaccia to Cresta it is not impossible to take a horse as far as the latter village, but it would not be advisable to ride over some parts of the way between the Septimer and Juf. The ascent is very long when made from Andeer; travelling in the opposite direction, a fast walker may accomplish the entire distance in 10 hrs. exclusive of halts.

After following the high-road for ¾ hr. from Andeer the path enters the valley of the Averser Rhein through a fine defile between bold rocks of crystalline slate under the shadow of ancient pine trees. Within ¼ hr. of the high-road is the first waterfall, a very picturesque object, well worth a slight détour from the way between Andeer and Splügen. Many other falls are passed higher up in the valley. The lower part of the Aversthal is often called *Ferrerathal*, and the first village, about 1 hr. from the valley, is *Ausser Ferrera*. Here are the remains of smelting works formerly employed in the reduction of a very rich iron ore found in the neighbourhood. Amidst very beautiful and varied scenery the path, keeping to the rt. bank, reaches *Canicül*—also called *Inner Ferrera*—4,856 ft. above the sea, a poor village very finely situated between the peaks of the *Surettahorn* (9,971' and 9,925') to the W., and the *Piz Starlera* (exactly 10,000') to the NE. The latter fine mountain descends in a nearly vertical precipice of rock to the banks of the torrent below *Canicül*. SE. from the village is the *Val Emet*, leading to the *Madesimo Pass* (Rte. M). There is a very rough inn, kept by civil people, at *Canicül*, and the

pastor is willing to receive respectable strangers in his house, which affords rather primitive accommodation. About ¾ hr. above *Canicül* two other lateral valleys join the Aversthal. Through one of these, called *Val Starlera*, it is possible to reach *Molins* in *Oberhalbstein* by a pass on the N. side of the *Weisberg* (9,987'), and the *Val da Faller* (Rte. A). To the S. is the opening of the more considerable *Val di Lei* (Rte. L). About 1½ hr. above *Canicül* is *Campout* (5,499'), where the valley opens out a little, and gives space for some green meadows. Less than 1 m. farther is *Crot*, standing at the junction of the *Madriserthal* with the main valley. [There is a pass leading to *Castasegna*, from the head of the *Madriserthal*, as to which information is desired.] *Polemonium ceruleum*, and other rare plants, may be found in this part of the valley. A rather steep ascent leads from *Crot* to

*Cresta* (6,295'), the chief village of the Aversthal. The last larch trees are seen near the village, and above this the valley is completely bare, although there are several hamlets, which are reckoned as the highest in the Alps and in Europe. The absence of trees is, however, to be attributed rather to reckless management than to the mere influence of climate, as in several adjoining valleys larch and Siberian fir (*arven*) extend nearly to 7,000 ft. above the sea. It has been said by many writers that the people here have no other fuel than cow-dung, and it is true that that article is preserved for firing; but wood is also procured from the lower part of the valley, though not without much labour, owing to the badness of the path, which is unfit for horses. The inn is uninviting; inferior to that at *Canicül*, but respectable travellers are received by the pastor. As a general rule, the traveller in this valley should carry such provisions as he may require. In fine summer weather he may often find all the houses of a village shut up, and the people absent till nightfall, en-

gaged on the mountains in cutting hay, &c.

Above Cresta the valley rises very gently for several miles, being occupied exclusively by meadows and alpine pastures, with here and there a small patch of potatoes, turnips, or lettuce. Several hamlets or groups of houses, inhabited throughout the year, occur at short intervals. Before reaching Pürt, the first of these, a glen opens to the l. towards NE., and leads to the foot of *Piz Platta* (11,109'), the highest of the outlying peaks of this district, said to be accessible without much difficulty from this side. There is a difficult pass between it and the *Fopperhorn* (10,371') leading to Molins. Beyond Pürt are Juppa and Podestats-haus (6,716'), and to the S. is seen the opening of Val Bregalga. Nearly 2 m. farther is the highest hamlet in the valley, and in Europe, called *Juf* (6,905'). From hence diverge the tracks leading to three passes that connect the head of the Avers-thal with the neighbouring valleys. The lowest, easiest, but least interesting of these is that of the *Stal-lerberg* (8,478'), due E. of Juf, and leading to Bivio. Another, higher, steeper, and rarely used, lies about due N., between the Fopperhorn and *Piz Scalotta* (10,112'), and leads by Val Bercla and Val da Faller to Molins (Rte. A). The third, which is the direct way to Casaccia, is the *Forcellina Pass* (8,770'). The path to it from Juf mounts gradually towards SE. along the rt. bank of the torrent for nearly  $\frac{1}{2}$  hr., and then begins to ascend rapidly by zigzags to the l., after which it resumes its SE. direction along the face of the mountain, passing round some precipitous rocks, until it again bears to the l., and with little labour and no difficulty leads the traveller in  $\frac{1}{2}$  hr. from Juf to the summit. The view is extensive and interesting, the Bernina chain and the peaks S. of Val Bregaglia are the most remarkable objects. In the opposite direction the Tödi comes into view. On the E. side

the path is scarcely traced, but the way is easily found in clear weather, care being taken not to bear too much to the l., and so descend on the N. side of the Septimer Pass. After passing an opening between steep rocks, the way to the Septimer Pass (Rte. I) lies over slopes of débris and snow. Casaccia is reached in  $2\frac{1}{2}$  hrs. from the Forcellina. From the Septimer it is easy to reach in 1 hr. a col connecting Pizzo Lunghino with the Gravasalvas, and to descend thence in little more than 1 hr. to the high road near the Silser See.

2. *By the Duana Pass, and Val Duana.* The *Val Bregalga*, which, as mentioned above, joins the Avers-thal fully  $2\frac{1}{2}$  m. above Cresta, affords the mountaineer a passage to Casaccia more interesting than that by the Forcellina. The way is somewhat intricate, and in great part trackless. From  $7\frac{1}{2}$  to 8 hrs., exclusive of halts, are required to reach Casaccia from Cresta.

After passing the hamlet of Bregalga (6,355'), near the entrance of the valley, the traveller mounts along the rt. bank of the torrent. Keeping due S., he finally reaches a small glacier lying W. of the *Gletscherhorn* (10,190'). This is traversed without difficulty, and on reaching the summit of the ridge (about 8,720', R. C. N.), he looks over a slightly depressed rocky plateau, or basin, usually in great part covered with snow. This is the head of a wild recess in the group of peaks whose highest point is the *Pizzo della Duana* (10,279'), and forms the head of Val Duana, which sends its torrent eastward towards Casaccia. To the rt. is a ridge dividing the snow-basin from the head of Val Ronda, one of the branches of the Madriserthal. Nearly due S. is a summit called *Marcio* (9,533'), with a small glacier lying on its N. slope, and E. of this a pass by which the people of Bondo in Val Bregaglia (§ 36, Rte. A) gain access to Val Bregalga and the Madriserthal. It costs the traveller but a short détour to make a circuit, partly

over rocks, partly over the glacier of the Marcio, to the top of the pass over Rondo, slightly higher than the Duana Pass—about 8,930', R. C. N. This commands a remarkable view. 'Monte Rosa is seen on a clear day' [R. C. N.], but the most remarkable objects are the granitic peaks on the opposite side of Val Bregaglia. The way now lies a little N. of E. to a little tarn lying in the midst of the very wild glen called *Val Duana*. A stream, which is followed on the l. bank, leads to a second and larger lake (8,051'), and the way lies along its N. bank, avoiding a small glacier that descends on the opposite side from the Pizzo della Duana. This lake, which receives all the waters of Val Duana, has no visible outlet, but must be drained by some underground channel into the lower valley, sometimes called *Val Marozzo*, through which the head waters of the Mera descend to Casaccia. A very short ascent, followed by a long and steep descent, leads the traveller into this valley. He crosses to the l. bank of the torrent, and in 40 min. more joins the track of the Septimer, about  $\frac{1}{2}$  hr. above Casaccia.

#### ROUTE L.

##### ANDEER TO CHIAVENNA, BY THE AVERSTHAL.

The mountaineer going from the valley of the Hinter Rhein to Chiavenna, may take a course far more interesting than the high road of the Splügen, by ascending the lower part of the Aversthal, and then following either the Val di Lei or the Madriserthal to the passes which connect those valleys with Chiavenna. The distance is about the same as the way to Casaccia by the Forcellina (Rte. K), but the passes are much steeper on both sides. Further information as to the passes mentioned in this and the following Rtes. is much desired.

From the Surettahorn, E. of the Splügen Pass, to the Pizzo Stella, near Chiavenna, the ridge dividing the waters of the Rhine from those of the Adda follows a direction nearly due S., and then runs ENE. to the Septimer Pass. The consequence is, that whereas the watershed at the Splügen is much nearer to Andeer than to Chiavenna, the two above-named tributary valleys of the Aversthal penetrate southward to the ridge immediately overlooking the lower part of the Val Bregaglia.

1. *By the Val di Lei.* As mentioned in last Rte., the Val di Lei joins the Aversthal about  $\frac{3}{4}$  hr. above Canicùl, nearly 4 hrs. from Andeer. It is a long, straight valley, enclosed between high and steep, but monotonous slopes. The upper end, hemmed in by glaciers and snow-fields, is more interesting. At its lower end the peaks of the *Pizzo della Pulü* (10,374'), and *Piz d'Emet* (10,502') rise on the W. side, and three passes leading to the Val di S. Giacomo are passed on the rt. hand by the traveller ascending the valley. The way to Chiavenna is by a pass at the extreme S. end; and after passing the highest châteaux, called *Pian del Nido*, the ascent lies by the E. side of a glacier descending from the *Pizzo Stella* (10,266'). On the traveller's left, dividing the head of Val di Lei from that of the Madriserthal, are the *Corno di Bläsi* (10,000') and *Cima di Sovrano* (10,040'). In approaching the summit of the pass, the way lies on the W. side of the *Lago Ghiacciato*, a rather large mountain tarn, partly frozen even in summer, and then bears to the rt., a little S. of W., to the summit of the pass, 8,780 ft. in height. This may, for want of a name, be called *Passo del Lago*, as the nearest summit to the E. is called *Cima del Lago* (9,892'). After descending a short way, the course bears abruptly to the l., and keeps nearly SE., till it reaches the W. end of another lake, called *Lago di Acqua Fraggia*. A steep descent then leads to *Savogno*, a village not far from the high road of the Val Bregaglia, which

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is reached about 2 m. E. of Chiavenna (1,040'). See § 33, Rte. A.

2. *By the Madriserthal.* The Madriserthal, parallel to, and E. of the Val di Lei, leads to the *Passo di Val Madris* (8,793'), between the Cima del Lago and the *Pizzo Galleggiante* (10,286'), whence, descending WSW., the track passes along the S. side of the Lago di Acqua Fraggia, where it joins that from the *Passo del Lago*, mentioned above, and descends by Savogno to Chiavenna. From Crot, where the Madriserthal joins the Aversthal, to Chiavenna, is said to be a walk of 7 hrs.; in all nearly 12 hrs., exclusive of halts, from Andeer. There is another way, described by Mr. Freshfield, with traces of an ancient paved path, leading to Promontogno in Val Bregaglia.

## ROUTE M.

### ANDEER TO CAMPO DOLCINO, BY THE AVERSTHAL.

Excepting the first, the passes mentioned below are little known and rarely used. Information respecting all of them is desired.

1. *By the Passo di Madesimo.* This way is certainly not longer than that by the Splügen road, but the pass is rather higher, and the way much rougher. It affords an agreeable variation on the ordinary route for those who have already seen the Splügen, enabling them to enjoy the fine scenery of the lower part of the Aversthal. At Canicùl (Rte. K) the path to the Madesimo Pass turns aside from the main track up the Aversthal, and follows the rt. bank of the torrent, draining the *Val Emet*. Keeping a tolerably direct course SW. to the head of this glen, the track reaches the *Passo di Madesimo* (7,480'). In descending, the way lies somewhat to the rt., and passes on the N. side of a little lake, called Lago di Emet; then, leaning to

the l., or SSW., it passes the hamlet of Madesimo and reaches the high road of the Splügen, close to Pianazzo (§ 33, Rte. A.).

2. *By the Val di Lei.* Few particulars can be given as to the passes leading from the Val di Lei to the Val di S. Giacomo. They lie in the following order, reckoning from N. to S. The *Passo di Val Sterla* (9,515'), on the S. side of the Piz d'Emet, joins the track of the Madesimo Pass, above the hamlet of that name.

The *Passo Groppera*, immediately N. of the *Pizzo Groppera* (9,626'), leads to the same track, which is joined just below the hamlet of Madesimo.

The third is rather more interesting, and probably easier than the last, and may be called *Passo di Angeluga* from a group of chalets on the W. side of the pass bearing the latter name. It lies on the S. side of the Pizzo Groppera, and passes near to a number of small lakes or tarns lying on either side of the watershed. The lowest of these (about 6,900') is close to the chalets of Angeluga. An abrupt, and rather steep, descent leads down to the level of the *Rabbiosa* torrent, fed by the snows of Pizzo Stella. The way lies along the rt. bank of the torrent till, after passing the hamlet of *Frasciscio*, it crosses to the opposite side, and bearing somewhat to the l., leads the traveller to the high road just above Campo Dolcino.

The Angeluga chalets are the most convenient starting point for the ascent of the *Pizzo Stella* (10,266'). The chief herdsman, named Giacomo dell' Adamino, is a competent guide, but a practised mountaineer will easily find the way, bearing to the rt. during the ascent, and striking the ridge some way S. of the highest point, which is marked by two stone men.  $3\frac{1}{2}$  hrs. suffice for the ascent, and  $2\frac{1}{2}$  hrs. for returning to the chalets.

By some mistake, the figures 3,406, indicating a height of 11,175 ft., are inserted in the Swiss Federal Map at a point SW. of the true summit on the Italian side of the watershed.

## SECTION 36.

## BERNINA DISTRICT.

It is but of late years that the importance of the portion of the alpine chain lying between the upper valley of the Inn and the Val Tellina has been generally recognised. The survey for the Swiss Federal Map proved that the peaks of this range had been previously rated too low by thousands of feet. The Piz Bernina does not quite equal in height the Pointe des Ecrins or Grand Paradis, but considering the number and height of the peaks, and the size of their glaciers, the Bernina Alps are certainly entitled to rank as equal in importance to the Dauphiné and Graian groups, and inferior only to the two greatest masses—the Pennine and the Bernese ranges.

Attention has already been called to the line of depression extending from Chiavenna into the Tyrol, chiefly occupied by the upper valley of the Inn. In the two foregoing sections, the ranges lying on the N. side of the great Rhætian valley have been described. The loftier masses to the S., between the Inn and Mera on one side, and the Adda on the other, may collectively be included under the designation Bernina District, although this comprises three groups which are in a great degree orographically distinct. The western group, lying between the Mera and the Adda, includes the high peaks that enclose the head of Val Masino, whose principal summit is the Monte della Disgrazia (12,074'). This is separated by the Val Malenco and the Muretto Pass from the central group of the Bernina Alps, whose highest summit attains 13,294 ft. To the E. and NE. the latter group is limited by the line of depression followed by the high road of the Bernina Pass, and beyond this extends a tract including several mountain ridges that lie between the Bernina Alps and the Orteler group. These are not sufficiently important to be described in a separate section,

and are therefore included here. The most natural division between this and the Orteler district appears to be the line of valley between Zernetz and Bormio, taking the low pass which connects the source of the Adda at the head of Val Fraele with the valley of the Spöl descending to Zernetz.

Although the scientific geographer attaches no especial importance to the line of demarcation between the waters flowing to the Adriatic through the valley of the Po, and those that pass into Germany through the Rhine or the Inn, this is usually regarded as defining the main chain of the Alps. According to this definition, the main chain extends from Chiavenna along the N. side of Val Bregaglia, then crossing the low ridge of the Maloya, runs southward through the glens of Ordlegna and Fedoz, by the E. side of the Muretto Pass, to the Piz Guz (11,066'). The dividing ridge between the Adda and the Inn then follows a tolerably direct course to ENE., including several of the chief summits of this district, such as Piz Tremoggia (11,326'), Piz Roseg (12,936'), Piz Bernina (13,294'), Piz Palü (12,835'), and Piz Cambrenz (11,835'), above the Bernina Pass. E. of that limit the same direction is preserved in the range whose highest summits are the Corno di Campo (10,843'), Monte Zembrasca, and Monte Foscagno (10,148'). The political boundary between Switzerland and Italy descends on the S. side of the watershed through the valley of Poschiavo nearly to Tirano, and in the Val Bregaglia to Castasegna, 6 m. from Chiavenna.

The best head-quarters for mountaineers desiring to explore the peaks and glaciers of the Bernina Alps are found at Pontresina, but Samaden and St. Moritz, when not over full, also afford good accommodation in the same neighbourhood. In the valleys opening toward Val Tellina the village inns are usually uninviting, but at the Baths of Masino very fair quarters are found by a traveller who would ex-



plore the grand scenery of that neglected valley. The Baths of Tarasp (4,182') in the Lower Engadine, and those of Le Prese (about 3,200'), near Poschiavo, are good stopping-places, but less attractive to the mountaineer than those above named.

It may be well in this place to notice the existence of a singular class, whose presence in the Engadine and Val Tellina, and in their lateral valleys, cannot fail to attract the notice of the mountaineer. Throughout this district the ordinary practice of the *communes* is to let a considerable part of the mountain pastures, or alps, to Bergamasque shepherds, who annually drive vast flocks of sheep from the meagre slopes of their native valleys to fatten on the richer and more nutritive vegetation of the higher mountains. Their course usually is over some of the passes mentioned in § 38, by which they descend into Val Tellina, and then, by the Bernina Pass, and various mountain tracks, reach the huts where they pass the summer months. These Italian shepherds are a wild-looking race, with limbs swarthy as the Bedouin, high conical hats, and clothing chiefly made of sheep or goat skin. They speak a Lombard dialect, sounding strange to the ear of a stranger; but, though rough in appearance and speech, they are usually honest, kindly, and hospitable people, used to a hard life and sparing diet, chiefly composed of polenta and water from the nearest stream. One consequence of this system is that horned cattle are much less common than elsewhere in the Alps, and the mountain wanderer cannot here count with any certainty on finding the excellent milk, butter, and cheese that are usually obtainable in an Alpine chalet.

It has appeared most convenient to include in this section the description of the main roads through the Engadine and the Val Tellina.

Visitors to the Engadine should know that a bank is now open during the season at St. Moritz.

## ROUTE A.

## CHIAVENNA TO NAUDERS, BY THE VAL BREGAGLIA AND ENGADINE.

	Post leagues	Eng. miles
Castasegna . . . . .	2½	7½
Vico Soprano . . . . .	2	6
Casaccia . . . . .	1½	4½
Silvaniana . . . . .	3½	10½
St. Moritz . . . . .	1½	4½
Samaden . . . . .	1	3
Zutz . . . . .	2½	7½
Zernetz . . . . .	3½	10½
Lavin . . . . .	2	6
Schuls . . . . .	3½	11½
Remüs . . . . .	2	6
Martinsbruck . . . . .	2	6
Nauders . . . . .	1½	4½
	29	87

Diligence daily between Chiavenna and Samaden, and between Samaden and Nauders. At Samaden a char to Chiavenna may be hired for 30 fr.

The high-road leaves the town of Chiavenna (§ 33, Rte. A) close to the Hôtel Conradi, and at once enters Val Bregaglia, a very fine valley that within a distance of 15 m. descends from the Maloya Pass through a vertical height of about 5,000 ft., passing from the region of alpine pastures to the Italian climate and vegetation of Chiavenna, which is but 1,040 ft. above the sea. After passing on the l. a pretty cascade fed by a stream descending from the Lago di Acqua Fraggia (§ 35, Rte. M), the traveller keeping to the road on the rt. bank, sees opposite to him the site of *Piuro* (Rom. Plurs), a town of considerable wealth and importance, which was overwhelmed by a bergfall in September 1618. The rocks and rubbish lay so deep that nothing has ever been recovered from the ruins but a church bell and two lamps. A chestnut wood now clothes the site, and conceals even the traces of so great a disaster. The Swiss frontier is passed before entering

*Castasegna* (Inn: Post), 2,362 ft. above the sea. This is the limit of the cultivation of the vine and mulberry. A steep and narrow ravine on the S. side of the Mera, or Maira, leads by the Forcella di Rochette to the head of

Val Codera, and to Val Masino (Rte. F). At Spino, about 2 m. above Castasegna, a bridge over the Mera, on the rt. of the road, leads to *Bondo* at the opening of the *Val Bondasca*. The glacier at its upper end is enclosed by a range of very fine granitic *aiguilles*, and well deserves a visit, even by those who do not attempt to traverse the ridges that enclose it. A few hundred yards farther the high-road crosses the Mera to *Promontogno* (2,687'), with a pretty good country inn kept by a widow Curtabat. On a plateau above the rt. bank of the river, opposite Bondo, is *Soglio* (3,340'), once one of the principal seats of the powerful family of Salis, and still containing an extensive villa and gardens. It is said that near to this village the Siberian pine and the chestnut may be seen growing side by side, an association scarcely to be found elsewhere in the Alps. Above Promontogno the valley is contracted to a picturesque defile below the ruined stronghold of Castelmur, where access to the upper valley was once guarded by a gateway. Above this the villages of Stampa and Borgonuovo are passed before reaching

*Vico Soprano* (3,566'), the chief village in the valley, with a fair inn kept by the Landammann Maurizio. A stone bridge leads to the rt. bank of the Mera, but the road keeps to the l. bank of the stream. The torrent from the Albigna Glacier enters Val Bregaglia about 2 m. E. of Vico Soprano, but flows parallel to the Mera, not joining that stream till it reaches the village. An excursion to the Albigna Glacier may be strongly recommended to those who do not undertake the somewhat laborious Passo di Zocca, described in Rte. F. A rather steep ascent leads from the plateau, extending some way above Vico Soprano to the upper level of the valley where stands the last village,

*Cusaccia* (4,790'), with three small and humble inns. Those of Bartolomeo Gioannini, and Agostino Zuan, have both been rather well spoken of,

and there is a third kept by Stampa. Pietro Torriani is recommended as a guide to the neighbouring passes. Here is the junction of the paths from the Muretto Pass (Rte. 4), and those from the Septimer, Forcellina, and Duana Passes (§ 35, Rtes. I and K). The ascent from Casaccia to the *Maloya Pass* (5,942?) is easy to the pedestrian, but it requires a good many zigzags to reach the low broad ridge from whence the streams fall on the one side to the Adda, and in the opposite direction to the Inn. An unattractive mountain inn stands at the summit. Between the Col des Échellets, near Bardonnèche, and the Tyrolese passes from the Inn to the Adige, this is the lowest point in the range of the Alps forming the natural frontier of Italy; but, as has been seen in the last section, it is necessary to traverse the Julier or some other higher pass, in order to reach the valley of the Rhine or the N. of Switzerland. The view towards the Val Bregaglia is more striking than that over the head of the Engadine, where rather gentle and monotonous slopes of bare green alpine pasture detract from the effect that would otherwise be produced by the high peaks on either hand. The descent is extremely slight, in fact quite insignificant, as the pass is but a few ft. higher than the *Silser See*, or Lake of Sils, the largest in the Alps lying at so great an elevation, 5,887 ft. It is fully 3 m. long, and 1 m. in breadth. The ruins of an ancient castle (*Chasté*) stand on a promontory of rock, at its eastern end. The road is carried along the N. shore, at the base of the Gravasas range, while on the opposite side two valleys descend towards the lake. The first is the *Val Fedoz*, leading up to the *Vadred da Fedoz*, a considerable glacier on the N. side of the *Piz Güz* (11,066'). Farther E. is the Val Fex, leading to the Capütscha Pass. The stream from this valley has brought down a mass of detritus, which it has spread out in a sandy plain (where the botanist may gather *Juncus*

*arcticus*), at the ENE. end of the Silser See, dividing it from the *Silvaplanner See*. It is evident that these lakes were once continuous, and that a single sheet of water extended nearly 9 m. through the head of the Engadine to Campfer. On the flat tract beyond the lake of Sils, but on the side of the stream opposite to the high-road, is *Sils*, and near to it, *Maria*. These, which are the highest villages of the valley, are marked by the air of neatness and comfort, that will strike the traveller throughout a great portion of this rte. At a large white house in the village of Maria is an excellent new inn, where visitors are received *en pension*. There is, or was, another smaller inn at the Post Office. This would be a convenient stopping place for a traveller wishing to explore thoroughly the adjoining Val Fex, which offers many attractions to the naturalist. For passes to Val Malenco see Rte. H. The excursion to the Salatschigna Joch is noticed hereafter.

The *Engadine*—by which name the Swiss portion of the valley of the Inn is generally known—deserves some special notice, as it is one of the most remarkable valleys in the Alps. There is none other which maintains nearly so great an elevation, for we here find that in a distance of 30 m., from the head of the valley to near Zernetz, the level of the Inn does not fall more than 1,000 ft. This fact, added to the influence of the snowy ranges that wall it in on either side, makes this the coldest of the greater valleys of the Alps. Beyond small patches of garden vegetables, there is no tillage in the upper valley, and nature provides no other resource than pasture for cattle by which to support the population. Observing these conditions, the stranger sees with surprise a large number of considerable villages, and a style of building announcing the possession of comfort, and even wealth, on the part of many of the inhabitants. A large part of the younger population is used to go

forth into the world with a view to find a living; but this would not suffice to account for the condition of the people, if it were not that they are in hereditary possession of a trade which they exercise with extraordinary success throughout the many countries to which they carry their industry. Most of the Swiss confectioners and sugar bakers who are to be found in every large town on the Continent come from the Engadine, and there are few of them who do not realise a competence, and return with their savings to their native valley. Cut off from their Swiss neighbours by mountain ranges that are not easily passed except in the height of summer, and bordering on Tyrol at the lower end of the valley, and on Italy in the contiguous Val Bregaglia, the Engadine people are at once isolated and citizens of the world. It thus happens that they have maintained unchanged their own peculiar dialect of Romansch (in which three or four periodical papers are published), and many local usages, while many of them are well acquainted with remote parts of Europe visited during their period of emigration. The Engadine is naturally divided into two distinct portions, the Ober Engadin, or upper valley, extending from the Maloya to the neighbourhood of Zernetz, and the Unter Engadin, stretching thence to the Tyrolese frontier below Martinsbruck. The conditions above described apply especially to the upper valley. In the lower valley the climate is less severe, and tillage is possible wherever the steep slopes allow room and soil for the purpose. But the Inn here runs through a deep trench between the opposing bases of the mountains, and the villages are often perched at a great height above the stream. The lateral valleys of the lower Engadine are for the most part narrow clefts whose precipitous slopes are clothed with the primæval forest, which still harbours the bear and many other wild animals, while the Lämmergeyer finds a home in the unfrequented crags of the alpine

region. Within the last few years the attention of many Swiss and other writers has been directed to this region, and several works, enumerated in the Introduction to this volume, have helped to increase the concourse of tourists, who have begun to make this one of their favourite haunts. Unlike what commonly happens elsewhere, the construction of a carriage-road through the upper part of the Engadine was an easy undertaking, while much labour and heavy expense have been absorbed in the continuation of the road through the lower valley. The new road, a great improvement on the old line, so steep and rough as to be scarcely passable for carriages, is now open to the Swiss frontier at Martinsbruck, but the road thence to Nauders is not in good condition.

Leaving to the rt. the little village of Sils, the road is carried along a dead level, and joins that of the Julier (§ 35, Rte. A) at

*Silvaplana* (two country Inns), on rising ground overlooking the *Silvaplana See*, the natural continuation of the lake of Sils. The silt and gravel borne down by mountain torrents have encroached on the basin of this lake, and will ultimately divide it into two parts. These lakes abound in fish, although they are usually frozen over for five or six out of the nine months' winter of this bleak district. The interesting walk to Pontresina by the Surlei Fuorcla is noticed in Rte. B. A new road, traversed by the diligence, crosses the river below the lowest lake, and goes to the Baths of St. Moritz, while the main road to Samaden, by the village of St. Moritz, keeps to the l. bank passing the pretty village of *Campfer* (Inn: H. Julier, good),  $\frac{1}{2}$  hr. below *Silvaplana*. The Siberian pine (*arolla*) becomes abundant above the

*Baths of St. Moritz*. The mineral springs, which have created a frequented watering-place in a position very unattractive to the lovers of ease and luxury, are at the base of a ridge projecting from the Piz Surlei (10,455'),

near the SW. end of the *St. Moritzer See*, 5,804 ft. above the sea. The waters are highly charged with alkaline salts, and carbonate of iron, with a small proportion of phosphoric acid, and traces of iodine, bromine, &c. Their influence, along with that of the mountain air, is said to be extremely efficient in cases requiring tonic treatment. They are annually visited by an increasing number of Italian, German, and English visitors, and the numerous inns near the springs are overcrowded throughout the ten or twelve weeks in which delicate persons are recommended to take the waters. A very large new building, intended to receive four hundred visitors, was opened in 1864. In a fine summer season the climate is highly enjoyable, though rather cold at night; but visitors should be prepared for inclement weather, and snow not rarely falls in the month of August. The village of St. Moritz (6,100') stands on rising ground, about 300 ft. above the baths, and rather more than a mile distant. Many of the patients lodge here. There are several inns, of which the most frequented is the *Hôtel Culm* (formerly *Faller*), kept by M. Badrutt—board, 5 fr. a day without wine, rooms from 2 to 5 fr. daily. Next to this rank in succession *Hôtel Bavier*; *Kreuz*, kept by Denz; *Post*; *Aquila Nera*. Lodgings may be had in private houses. Very general complaint is made that the food at all the inns here is inferior in quality and scanty. Nevertheless they are generally crowded, and travellers who have not secured rooms in advance should be prepared to go on to Samaden or Pontresina. Most of the excursions usually made from those places may be taken from St. Moritz; and good roads make it easy for ladies to reach comparatively distant points in the valley. Of the nearer walks the most interesting are those up the slopes N. of the village, commanding views of the higher peaks of the Bernina. The chalets of Nova and those of Giop are often visited, but

the best view is from the summit of the Margums Alp (7,766'), on the ridge overlooking Val Cellarina, which may be reached in rather more than 1 hr. The summit of *Piz Nair* (10,040'), at the W. extremity of the same ridge, is attainable without difficulty in 3 hours' steady walking from the village. The tour of Val Bevers (Rte. C) may be made by passing on the S. side of the *Piz Nair* to the little lake at the head of Val Suvretta. A very pleasing and easy walk to Pontresina is by the S. side of the St. Moritzer See to the chalets of Acla, where coffee, cream, butter, &c. are provided for visitors, and then by a little mountain tarn called Statzer See, near to which grows *Drosera longifolia*.

One of the most interesting excursions from St. Moritz is that to the valleys of Fex and Fedoz, connected together by the Salatschigna Pass. The tour would be shortened by starting from the hamlet of Maria, but a char may be taken not only to Maria but for nearly 3 m. farther, as far as the chalets of Curtins in the Val Fex, and may await the traveller's return at Maria or Cresta.

On leaving Maria the char-road into Val Fex ascends nearly 500 ft. in order to gain the floor of the valley, which extends nearly at a level for fully 2 m., passing by the hamlet and picturesque chapel of Cresta to Curtins. The traveller then follows a path by the chalets and dairy establishment of the Silser Alp (6,759'), considered one of the most perfect in Switzerland, and, following the main track up the valley for some distance farther, leaves on the l. the path to the head of the valley, and ascends up grassy slopes towards the rocky ridge dividing this from Val Fedoz. The *Salatschigna Pass* lies well to the l. of a remarkable rock, resembling in its outline a cat *couchant*, and is a gap in a sharp indented ridge, commanding very fine views of the Fex and Fedoz Glaciers. The first is seen backed by the Capütschin, and the course taken over the Capütschin

Pass (Rte. H) and the Fex Fuorcla (Rte. C) may be traced from hence.

[The route from Pontresina to Chiesa may be easily joined by any one starting from Maria or St. Moritz and crossing the Capütscha Pass, connecting the Fex and Scerscen Glaciers. It affords the only direct way from either of those places to Val Malenco.]

The *Val Fedoz* offers grander and more impressive scenery than the Val Fex, and the *Piz Margna* (10,355'), rising on its W. side, is a striking object. The descent into it is steep; the usual course lies somewhat l. of the pass; but it is also possible to keep down steep slopes on the rt., which lead to a goat track. 'This skirts the ridge for a considerable distance, but ultimately turns downwards, and led us to the foot of the rocks after 2½ hrs.' hard work. A further walk of 1 hr. along the stream brought us to the opening of the valley. Leaving the torrent to find its way by a fine fall to the level of the main valley above Isola, we turned to the rt. over moist meadows, and rounded a grassy brow, with lovely views of the Silser See, till we rejoined our morning rte. near Cresta, and ½ hour's rapid descent brought us back to Maria.' [J. F.]

The high road from St. Moritz traverses the small villages of Cresta and Cellarina, separated only by the torrent issuing from *Val Cellarina*. Here a road turns to the rt., crosses the Inn, and passing by the ancient church of St. Giann, leads in less than 4 m. to Pontresina (Rte. B). The main road along the l. bank leads to

*Samaden* (Inns: Hotel Bernina, a good house and well situated; H. des Alpes, new, not bad, arrangements imperfect; Engadine Hof, large new house; Krone, fair and reasonable; Post, old-fashioned and primitive, cheap), the principal village of the upper Engadine, 5,608 ft. above the sea, with many large houses, inhabited by persons retired from business. This remote village has much the air of a town. It has three or four *cafés*,

a weekly political newspaper, and other periodicals. Lechner's *Piz Languard und die Bernina Gruppe*, sold here, will enable practised walkers to dispense with a guide for the ordinary excursions. Most of these are best made from Pontresina (Rte. B), but the *Piz Padella* (9,459'), immediately W. of the village, and easily accessible in 3 hrs., is best visited from hence. The ascent of *Piz Ot* (10,660') is more laborious, but it has been made easy, even for timid people, by a good path, with a hand-rail in steep places. As compared with the *Piz Languard*, this affords more interesting rock scenery; but the higher peaks are more distant, and the grand view of the Morteratsch Glacier is here wanting. The low summit called *Muottas* (8,273'), commanding a noble view, may be taken on the way to Pontresina. The church of St. Peter, the oldest in the Engadine, 300 ft. above Samaden, deserves a visit for the fine view over the valley. The neighbourhood of Samaden and St. Moritz abound in objects of interest to the naturalist. In addition to some special localities hereafter noted, the botanist may find in the main valley *Androsace septentrionalis*, *Linnaea borealis*, *Phaca frigida*, *Dracocephalum Ruyschianum*, *Carex Burbaumii*, *Kæleria hirsuta*, and many other rare plants. The zoologist will have no less ample occupation. Amongst many other rare Lepidoptera, he may take *Chelonia flavus*; and in the lake of St. Moritz he will find *Lymneus Blauneri*.

The road from Samaden is carried along the level floor of the valley to *Bever*, at the opening of the valley of the same name described in Rte. C. A schoolmaster named Krättli, who is well acquainted with the very rich local flora, sells, or did sell, good collections of dried plants. About 1 hr. farther is

*Ponte* (Inns: Hotel Albula, new; Krone, the old house, with tolerable rooms), at the junction of the track from the Albula (§ 35, Rt. C) with the road of the Engadine. As the name

indicates, there is here a bridge over the Inn, but the road now keeps all the way to the l. bank. To the rt. lies

*Campovasto* (5,581'), also called *Camogask*, at the opening of the *Val Chiamuera*, or *Camogaskerthal*, which with its two lateral branches penetrates deeply into the mountain ranges separating the Inn from *Val Livigno* (Rte. M). The main central branch runs SSE., and is connected by a pass on the W. side of the *Piz della Stretta* (10,197') with the head of the *Val del Fain* (Rte. B). A SE. branch, called *Val Lavirum*, leads by the *Lavirum Pass* (9,249') to the *Federia* branch of *Val Livigno*. On the other side is the *Val Prunus*, mounting SSW. to the E. foot of *Piz Languard*.

Scarcely 1 m. beyond *Ponte* there is another bridge over the Inn at *Madulein*, a village standing under the castle of *Guardaval*, ruined in the 14th century in an outburst of popular fury, when a peasant of the valley had first slain the local oppressor to defend his daughter's honour. A torrent here descends from *Piz Kesch* (11,211') through the *Val d'Eschia*. That fine peak was first reached in 1864, as mentioned in § 35, Rte. C. The head of *Val Tuorn* (§ 35, Rte. C) may be reached from *Val d'Eschia* by the *Eschia Pass* (9,347', B. Studer). About 2 m. beyond *Madulein* is

*Zutz* (Inn: Schweizerbund, new, and well spoken of). The *Piz Griatschouls* (9,754') is easily ascended from hence, and is said to command a fine view. On the N. side it overlooks the *Val Sulsanna*. The next village is

*Scansf* (Inns: Traube, very small; Kreuz). A little lower down is the opening of *Val Casanna* (Rte. M). There are here fine views of the *Piz Kesch* to the W., and *Piz d'Esen* (10,269') and *Piz Quaternals* (10,358') to the E. At *Capella* the paths from the *Scaletta* and *Sertig Passes* (§ 35, Rtes. G and H) descend through *Val Sulsanna* to join the road. At *Cinuschel* (5,302') there is a poor Inn, and a little farther—nearly 2 hrs. from *Zutz*—the road crosses a torrent de-

ascending from Piz Vadred by a bridge called *Pont Auta*. This forms the political boundary between the Upper and Lower Engadine, but the natural limit is 3 or 4 m. lower down the valley, where the road, after crossing to the l. bank, makes a rather rapid descent just above

*Zernetz* (Inns: Bär, new; Löwe, kept by J. Fili, who has killed many bears and chamois on the neighbouring Alps; Steinbach). The village is much improved of late years, since a good road has connected it with the head of the valley. Here the Spöl, uniting the torrents from many mountain valleys into a considerable stream, enters the Engadine from ESE., while the Inn is forced aside from its direct course by a considerable mass of mountains whose highest point is *Piz Nuna* (10,263'). The village, one of the most important in the Engadine, stands at 4,912 ft. above the sea, on a tongue of land below the junction of the Spöl, and in the angle between it and the Inn. An excursion into Val Cluozza will interest the lover of wild scenery. The road returns to the l. bank of the Inn on leaving Zernetz, and keeps that side of the valley till it reaches the Tyrolese frontier at Martinsbruck. The way to Sius lies through a narrow and picturesque defile commanding at some points a fine view of Piz Linard. The steep walls of the valley are broken through at one point where a torrent descends from the *Sursura Glacier* on the E. side of the higher peaks of the Scaletta Alps. A fine pass from Davos to Sius by the Dischmatal and the Grialetsch and Sursura Glaciers, was effected by Mr. Girdlestone. See § 35, Rte. G.

(*Sius* with two small tolerable inns) stands in a picturesque position at the junction of Val Susaca with the main valley. By that way the valleys of Davos and Prättigau are connected with the Engadine by passes described in § 34 and 35. The lord of a castle, who surrendered to the people when they rose against their oppressors, was

faithlessly murdered by them after he had a promise of safe-conduct. From that day forth—say the people of Sius—no lark has ever sung over the ruins. Steep rocks of hornblende slate rise above the road, and the opening of the wild Val Sagliains is passed on the l., as the road approaches

*Lavin* (Inn: bei Jacob Juon, poor but civil people), 4,782 ft. above the sea. For the ascent of Piz Linard, the highest of the Silvretta Alps, which rises in a very bold peak between Val Sagliains and Val Lavinuoz, see § 34, Rte. E. The *Piz Miezdi* (9,593'), S. of Lavin, may be reached without difficulty by a moderate mountaineer, and will reward him by a very fine view of the Silvretta Alps. Below Lavin the valley of the Inn is everywhere so contracted as to leave little or no space near to the stream, and nearly all the villages stand at a considerable height on steep slopes, often separated by furrows or ravines cut into the mountains by torrents. This has made the construction of a road difficult and expensive. It is necessary either to descend into the depths of the valley in order to ascend again, or else to carry the road round projecting ribs of the mountain, and over deep rocky ravines. The new road passes below *Guarda* (5,413'). It has a clean inn (Sonne), and commands a fine view. The pedestrian may reach it by the old road, and then redescend to cross a ravine. In 2 hrs. from Lavin the traveller reaches *Ardez*, a village beside the ruins of the castle of Steinsberg. The road now descends near to the bank of the Inn, and passes the opening of Val Tasna leading to the *Futschöl Pass* (§ 34, Rte. H). The castle of Tarasp and the houses of the adjoining hamlet of Vulpera are now seen on the opposite bank of the Inn, and the pedestrian may reach them without delay. The old char-road here mounted the steep projecting ridge on which stands *Fettan*, and then at once began to descend: but the new road avoids

Fettan, and in about 5 m. from Ardetz reaches

*Schuls* (Inns: Pension Belvedere, very good; several others of humbler pretensions, kept by Wieland, Peer, Arquint, &c.). This place has lately come into notice owing to the discovery of two powerful alkaline and chalybeate springs, but still more because of the increasing reputation of the neighbouring waters of Tarasp, to which place visitors are conveyed by omnibus several times daily.

Most travellers will turn aside to visit the mineral springs of *Tarasp*, as the place is generally called. The rather primitive inns formerly kept here by Steiner and Karl, are in some degree superseded by the opening of a large, new, handsome hotel. The hamlet where the more important springs have been discovered is properly called *Vulpera*, but the name of the commune is *Tarasp*. It is the only one in the Engadine where the people are Roman Catholic, and speak German instead of *Romantsch*. The waters here resemble those of *Schwalbach* and *Pyrmont*, but are said to be more powerful. There is little other resemblance between this place and those unattractive spots. The scenery of the immediate neighbourhood is here very fine, and there is ample occupation for the lover of nature in exploring the adjoining valleys. The principal establishment stands at 4,182 ft. above the sea, and enjoys a much milder climate than that of *St. Moritz*.

Of short walks, one of the most frequented is that to the castle of *Tarasp*, an ancient pile which has passed into the hands of M. Planta of *Samaden*, a distinguished member of one of the most distinguished families of this part of Switzerland. The village of *Tarasp* adjoins the castle. No stranger should omit to visit the *Moffette*, within  $\frac{1}{2}$  hr. of *Schuls*, near the old road to *Fettan*. The name is given to two orifices through which carbonic acid gas, mingled apparently with sulphurous acid, issues in such

volume that insects, mice, and small birds approaching the place fall dead. A man walking upright scarcely feels any inconvenience, but on stooping the respiration is immediately affected. The remains of small animals are usually to be seen in abundance about the spot, which is bare of vegetation for a considerable space. There are many longer excursions, which will afford occupation to the mountaineer. On the N. side of the Inn the *Val Clozza*, opening at the village of *Schuls*, leads up to the E. base of the *Minschun* (10,076'). A southern peak of this mountain, 9,147 ft. in height, is easy of access. The Editor has no notice of the ascent of the higher summit. On the E. side of *Val Clozza* is *Piz Chiampatsch* (9,580'). The summit, reached in 4 hrs. from *Schuls*, is said to command the finest general view of the Lower Engadine. An excursion to the head of *Val Tasna* (§ 34, Rte. H) would lead through fine scenery. The mountain ranges on the S. side of the Inn are probably more attractive than the granitic mountains to the N., but they have been little explored. The higher peaks consist in great part of dolomite, and serpentine is present in large masses. One of the highest summits is the *Piz Pisoch* (10,427'), immediately S. of *Tarasp*. Towards the SW. is a considerable group of peaks, little exceeding 10,000 ft. in height, but supporting a large glacier called *Vudret Lischanna*, which may be reached through a short glen called *Val Lischanna*. W. of *Tarasp* the *Val Plafna* flows from the S. into the Inn, while the far more considerable *Val Scuria* (§ 37, Rte. K) follows a parallel course, and opens into the main valley close to *Vulpera*. By one of the lateral branches of this valley, called *Val Minger*, it is easy to reach the head of *Val Plafna* across a rather low pass (7,628'), and so return to *Tarasp*. Several rare minerals have been found in the lower part of *Val Scuria*, and many interesting objects doubtless await the naturalist who will explore



its recesses. Among other rare plants found in this neighbourhood may be mentioned *Linnaea borealis*, *Cortusa Matthioli*, and *Cypripedium calceolus*.

The new road from Schuls is carried along the l. bank of the Inn, below Sins (4,701'), a village with many large houses and tokens of wealth brought back by its migratory population. The *Val d'Una*, opening to SE., is seen on the opposite side of the Inn. A path leads that way to Mals (§ 37, Rte. L). The main valley opens out at

Remüs (4,022'). The bridge, spanning a narrow cleft through which the torrent from Val Sinestra (§ 34, Rte. H) enters the Engadine, stands below the ruins of Tschianuff, a castle erected to defend the valley against the predatory incursions of the Tyrolese. From this village the mountaineer may ascend the

Muttler (10,827'), the highest peak in the Lower Engadine. It has been climbed by M. Weilenmann. A short way below Remüs the *Val Assa* opens on the S. side of the Inn. Rather high up in this short glen is a curious spring, called Fontana Chistaina, said to flow regularly three times a day, being dry at other times. The valley of the Inn between Remüs and Martinsbruck is a defile, which is almost an unbroken continuation of the well-known gorge of Finstermünz. The road passes under the village of *Schleins* (5,056'), standing on a high terrace 1,400 ft. above the river. It was utterly destroyed by fire in November 1855. [The head of *Val Sampuoir*, a branch of the Samnaunthal (§ 34, Rte. H), may be reached from Schleins by the *Salet Pass* (9,565'), a hunter's pass over the ridge E. of Muttler.]

Martinsbruck is commonly spoken of as the extreme limit of Swiss territory towards the Tyrol, but the steep l. bank of the Inn belongs to Switzerland for a space of four or five miles lower down, as far as the opening of the Samnaunthal (§ 34, Rte. H). The path on that side of the river is a mere goat-track, but more picturesque than the

road which crosses the Inn at Martinsbruck (3,343') and enters Austrian territory. The passport office and custom-house are close to the bridge. The rough road mounts over a projecting ridge, and then descends a little to reach

Nauders (Inns: Post; Mondschein), 4,164 ft. above the sea, on the high road from Botzen to Landeck and Innsbruck (§ 44).

## ROUTE B.

### SAMADEN TO PONTRESINA—EXCURSIONS FROM PONTRESINA.

Since the Engadine has become more widely known to strangers, the favourite resort of mountaineers has been to Pontresina, a village less than 4 m. from Samaden, on the way to the Bernina Pass (Rte. K). It is reached by a good road that ascends gently along the rt. bank of the *Flatzbach*. In the lower village is a clean and comfortable inn (Steinbock), much quieter than those in Ober Pontresina, only a few hundred yards farther on. This stands at 5,915 ft. above the sea, immediately on the N. side of the main group of the Bernina Alps. The inn (Krone) kept here by Gredig has been for some years a favourite resort of English tourists. There have been some complaints, but the general testimony is favourable. A large well-built house (H. Rosegg) has been lately opened. The Weisses Kreuz has also very fair accommodation, and the obliging host knows the country well. Good beer is found here. Lodgings may be engaged at many of the private houses, those of M. Saratz are recommended.

The visits of strangers have created here the profession of guide, and regulations, comprising a tariff, which have been the subject of just animadversion, have been established. The chief guide

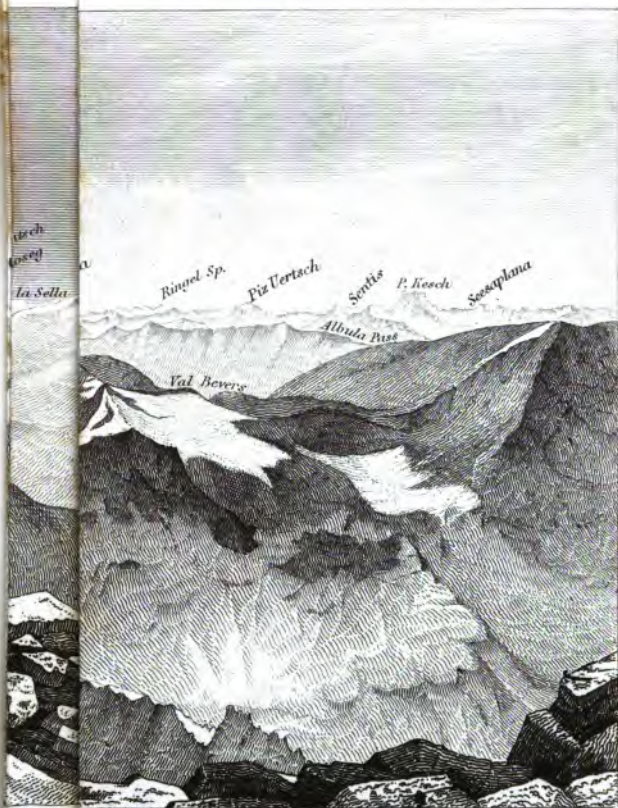
was J. Colani, son of a famous chamois-hunter, of whose strange career Tschudi has given an interesting and well known narrative. The present Colani knows the mountains thoroughly, and has been a good mountaineer, but is now past active work. It is to the influence of Colani that a narrow jealousy of strange guides, whether from Switzerland or Chamouni, and the extortionate terms demanded for the ascent of the higher peaks, have been attributed. Jenni and Fleuri, long known as the best guides here, no longer act. Of the younger men, Hans and Chr. Grass, Jacob and Paul Mueller, and A. Ambühl are best spoken of. It is a general opinion among English travellers that the guides here are not so attentive and obliging in small matters as those of Chamouni and the Oberland usually are. This is perhaps owing to the fact that they hold a higher social position, and that in this part of Switzerland a tone of equality between classes is more firmly established than in the more frequented districts of the Alps. The tariff includes most of the minor summits that can by possibility attract the attention of a stranger. The usual charge for the ascent of those between 10,000 and 11,000 ft. is from 7 to 10 fr. per guide, while lesser excursions are charged 5 or 6 fr. For Piz Tschierva, or Piz Corvatsch, the charge is 15 fr., and Piz Morteratsch or the Capütschin 20 fr. So far the tariff was not unreasonable. The extravagant demand of 300 fr. for the ascent of Piz Bernina, subject to increase if there were more than two travellers, and the like sum for the ascent of Piz Roseg, has been abandoned; the first is marked 80 fr., the latter 50 fr. for each guide. Several of the guides have collections of dried plants for sale.

A long list of peaks near Pontresina might be given, the ascent of which may offer agreeable occupation to a mountaineer. Of these, Piz Ot and Piz Padella being more conveniently

taken from Samaden and Piz Nair from St. Moritz, have been noticed in the last Rte. The *Piz Chalchag* (10,348'), lying between Val Roseg and the Morteratsch Glacier, and the *Piz Surlei* (10,456') between the first-named valley and the Inn, are tolerably easy of access.

The following notices of excursions from Pontresina are much abridged. Visitors who remain some days will not fail to purchase the little work by Lechner, mentioned in last Rte., which will enable them to dispense with a guide for many of the easier excursions.

1. *Piz Languard*. The indispensable excursion for visitors to Pontresina is the ascent of Piz Languard (10,715'), commanding one of the finest panoramic views in the Alps. The ascent, which is remarkably easy for a point of such height, takes about 3½ hrs. A horse may be taken (charge 10 fr.) as far as the foot of the last peak. A practised mountaineer does not require a guide. The peak lies about due E. of Pontresina, on the N. side of a little glen whose stream enters the Flatzbach, ½ m. above the village. The ascent is for some way through a wood of larch and arolla, then over easy slopes of alpine pasture, till the track reaches the base of the peak, which is chiefly formed of mica slate. The way thence lies chiefly among large blocks of stone, with patches of snow. The top is marked by a wooden cross and an iron stanchion. The annexed view will give a better idea of the panorama than any description. It includes Monte Rosa to the W., and the central range of the Tyrol Alps to the E. Far more striking than the distant peaks in the horizon are the great summits of the Bernina Alps, rising above the Morteratsch Glacier. *Potentilla frigida*, *Androsace glacialis*, and *Carex VahlII* are found on the peak. It is possible to make a circuit by a small glacier lying SE. of the summit, and descend into the Val del Fain by a ridge called La Pischa. For this agreeable tour the guides claim 10 fr.



Edw. Weller.

A N



2. *Morteratsch Glacier*. Next to the Piz Languard, the visit to the Morteratsch Glacier (Rom. Vadret da Morteratsch) is the excursion most recommended to visitors at Pontresina. To make the position of this and the other neighbouring glaciers more clear, a few words on the topography of the Bernina Alps may be serviceable. The principal peaks of the Bernina are disposed in a range running from WSW. to ENE., between *Piz Tremoggia* (11,326) and *Piz Cambrena* (11,835'), or in ridges that project from this central range. Half-way between the two above-named summits rises the highest peak, *Piz Bernina* (13,294'). This occupies the very centre of the group, and from it, as well as from the Tremoggia and Cambrena peaks, three considerable ridges extend about due N. Between the easternmost and the middle ridge lies the Morteratsch Glacier, while between the latter and the western ridge is the Val Roseg, closed at its S. end by the Roseg Glacier.

The *Morteratsch Glacier* descends towards the N., approaching very near to the Bernina road, at a point about  $3\frac{1}{2}$  m. above Pontresina, where it comes to an end in a gorge, near to a fine waterfall of the Flatzbach. The lower part of the glacier is easily traversed, and a rough track has been carried along both banks, used by the sheep that are pastured on the slopes. The excursion from Pontresina is often extended as far as the chalet of Boval, occupied in summer by Bergamasque shepherds. It stands on the l. bank of the glacier, and is reached in about  $2\frac{1}{4}$  hrs. from the high road. A first attempt by the guides Jenni and Fleuri to provide a hut for the convenience of mountaineers at a place much higher than Boval failed owing to the irregular incursions of the glacier stream. A new hut has been completed by the aid of the Swiss Alpine Club, and will doubtless be serviceable for long expeditions. There being now so many rival mountaineers in this district it

may sometimes be found overcrowded. Those who wish to traverse a part of the glacier usually go to the *Isla Pers* (8,169'), a projecting rock, whose position recalls that of the *Jardin* near Chamouni, which rises from the lower part of the *Vadret Pers*. This is a much-broken lateral glacier, descending towards the NW. from the ridge connecting the Piz Palü, Piz Cambrena, and Mont Pers. Below the *Isla Pers* it joins the main ice-stream of the Morteratsch, descending from the S. in an almost unbroken ice-fall from the highest crest of the Bernina group connecting the Piz Zupo, Cresta Agiuza, and Piz Bernina. The Piz Zupo is the summit lying due S. along the axis of the Morteratsch Glacier; the rather higher Piz Bernina lies SW., at the origin of the range dividing the Morteratsch and Roseg Glaciers. Speaking generally, the lower part of the Morteratsch Glacier is easily traversed in all directions, while above its junction with the Pers Glacier both ice streams are much crevassed, and the assistance of thoroughly good guides is required for all expeditions above that limit.

3. *Tour of Mont Pers. Diavolezza Pass*. The E. side of the Morteratsch glacier, below the junction of the *Vadret Pers*, is bounded by a moderately high rugged mass, called *Mont Pers*. The highest point, reaching 10,532 ft., but little surpasses the general height of the ridge extending along the NE. side of the Pers Glacier towards the higher mass of Piz Cambrena. One of the most agreeable excursions from Pontresina is to make the tour of the Mont Pers, mounting by the Morteratsch Glacier, and returning by the Bernina road. A good rope, ice-axe, and a trusty guide (charge 12 fr.) are advisable, as the Pers Glacier is always much broken, and sometimes difficult. The *Isla Pers*, when approached by the most direct course, is reached in from 4 to 5 hrs. from Pontresina. The way lies a little N. of E. from the summit of the *Isla Pers*, across a much-cre-

vassed piece of glacier, to the foot of a slope of rough debris, with patches of snow, leading in about 2 hrs. from the island of rock to the *Diavolezza Pass* (9,670' [R.C.N.]). This commands a very beautiful view of the Bernina peaks on the one side, and the Orteler Alps on the other. The descent is by a snow-slope to the highest of a chain of small tarns, whose name (*Diavolezza*) has been given to the pass. Overlooking the lakes at the summit of the Bernina Pass, a rough track follows the torrent, and in 2 easy hrs. from the pass reaches the Bernina Inn. In 2 hrs. more the traveller returns to Pontresina.

Mr. and Mrs. Winkworth made, in 1863, a longer circuit by a pass nearer the Piz Cambrena, descending by the Val d'Arli, and reaching the high-road at the same point as by the last-named pass.

4. *Roseg Glacier*. Next to the Morteratsch, the Roseg Glacier is the most considerable of those connected with the Bernina group. It is formed by the confluence of two nearly equal ice-streams. The S. branch, or true *Vadret da Roseg*, originates in the ridge connecting the Piz Roseg, La Sella, and the Capütschin. The SE. branch, or *Vadret da Tschierva*, lies on the other side of Piz Roseg, and is enclosed by that peak, the Piz Bernina, and Piz Morteratsch. In the fork between the two glaciers is a rocky promontory called Agagliogs (9,078'). The Roseg Glacier below the junction is much shorter than its rival, and extends but about 1 m. into the valley that opens close to the village of Pontresina. There is a rough char-road through the glen, and it is an easy walk of 2½ hrs. to reach the foot of the glacier. The slopes on the W. side still support some fine arollas. Of several chalets in the valley, that of Misauna (6,578') is nearest the glacier, and supplies the best quarters. The favourite excursion is to the summit of the Agagliogs rock, a point which may be reached by ladies, about 5 hrs.

distant from Pontresina. Charge for a guide (unreasonable)—10 fr. Mr. Tuckett found a plateau on the E. side of Piz Corvatsch, above the E. bank of the glacier, commanding a still finer view, and returned thence in 2½ hrs. to Pontresina, passing the chalets of Ota, and enjoying delightful views of the neighbouring peaks. *Trientalis europea*, extremely rare in the Alps, has been found in Val Roseg.

5. *Ascent of Piz Bernina* (13,294'). This remarkable peak was first reached in 1850 by M. Coaz, and next by M. Saratz of Pontresina. The interesting description of the ascent, given by Mr. E. S. Kennedy in the Second Series of 'Peaks, Passes, and Glaciers,' is well known to most readers. The expedition is at all times difficult and laborious, and in some states of the snow has been found impossible. A much shorter course than that followed by Messrs. Kennedy and Hardy has, however, been lately adopted. Instead of making a great circuit by the rocks called 'Festung der Gernsen Freiheit,' in the ridge extending NNW. from Piz Palü, it has been found possible to ascend by the W. side of the great ice-fall of the Morteratsch. This saves fully 3 hrs. on the old route, but is not altogether free from risk from avalanches, and requires the aid of first-rate guides. This leads by a very direct course to the crest of the ridge between the Cresta Agiuza and the Piz Bernina, which itself commands a magnificent view. This, called by M. E. N. Buxton *Cresta Agiuza Sattel* (11,930'), was traversed as a pass between Val Malenco and Pontresina by Mr. Tuckett in 1866, who on the same occasion reached the summit of Piz Bernina along the crest.

Messrs. E. N. Buxton, W. F. Digby, W. E. Hall, A. Johnston, and N. Woodmass, with Jenni, Fleuri, and Walther as guides, reached the summit of the *Piz Palü* (12,835') by the ridge to the E. of the summit. The weather being very unfavourable, no view was obtained. *Piz Zapò* (13,120') was

reached in 1863 by MM. Enderlin and Serardy, with a chamois-hunter named Padрут.

6. *Ascent of Piz Morteratsch* (12,316'). The ascent of Piz Morteratsch, the highest summit of the ridge dividing the Roseg and Morteratsch Glaciers, is a safe and not difficult expedition. The tariff price for a guide is only 20 fr., while 50 fr. (?) are demanded for the Piz Roseg. The descent to the Boval ch  let on the Morteratsch Gl., spoken of in the following note by Messrs. Blore and Gosling, is extremely steep, and a party attempting that course in 1864 was very nearly lost in an avalanche.

'We left the Roseg (Misanna ?—Ed.) ch  let (good quarters) at 4.30 A.M., reached the top of the rocks in 2 hrs. 40 min., halted 40 min. for breakfast, and gained the summit at 9.30. Descended to the Boval ch  let in 3 hrs.' [Mr. Bonney has pointed out in 'Alpine Journal,' No. 23, a pleasant variation on the ordinary route.]

7. *Ascent of Piz Roseg*. This rises very boldly between the Roseg and Tschierva glaciers; its highest portion includes two peaks. The higher, measuring 12,936 ft., is connected by an extremely sharp ar  te with a second northern peak, lower only by 52 ft. From the latter a rocky ridge, partly covered with n  v  , extends NNW. to the Agagliogs promontory, which divides the two great glaciers named above. The N. peak has been ascended by Mr. Bircham in 1863, and afterwards by M. Weillenmann, and M. Specht of Vienna, by a hanging glacier that falls from the SW. side of the ridge to the upper n  v   of the Roseg Gl. The very difficult passage of the ar  te leading from the second to the highest peak was first accomplished in 1865 by Messrs. A. W. Moore and H. Walker, with Jacob Anderegg as guide.

The *Piz Sella* was ascended in 1863 by Messrs. E. N. Buxton, W. F. Digby, and A. Johnston. It has two peaks close together, of which the highest reaches 11,805 ft. The *Piz Tschierva*

(11,718'), *Piz Corvatsch* (11,345'), and *Cap  tschin* (11,132') are all easy of access. The Pontresina tariff fixes rates varying from 12 to 25 fr. for a guide to the summit.

8. *Tour of Piz Surlei by the Surlei Fuorcla*. It has been mentioned in Rte. A that there is an easy and charming walk, in great part through forest, from Pontresina to St. Moritz by the Statzer See, Acla, and the SE. side of the Lake of St. Moritz. A moderate walker may enjoy a very pleasing excursion by proceeding from St. Moritz to the hamlet of Surlei, WNW. of the peak of that name, and then following a track to the S. along the l. bank of a torrent. After passing a ch  let, the course is up a projecting slope towards a black rock seen from the valley of the Inn, and then bears to the l. till the torrent is again reached at the foot of a little glacier on the N. side of Piz Corvatsch. It is better to pass below the end of the glacier, when a short ascent will lead the traveller to the *Surlei Fuorcla* (9,042'), commanding a noble view of both the Roseg and Tschierva Glaciers and the great peaks enclosing them. From the pass the traveller may descend towards the foot of the Roseg Glacier, or else bear to the l., and so shorten the way to Pontresina. The tour requires 7 or 8 hrs., exclusive of halts.

9. *Tour of Piz Corvatsch*. A much more laborious excursion than the last is the tour of Piz Corvatsch, effected by a pass called *Fex Fuorcla* (10,112'), between that peak and the Cap  tschin. Some travellers, instead of crossing the pass, mount an adjoining summit called *Cima da Fex*—apparently that marked 3,302 metres = 10,833 ft. in the Swiss Federal map. The descent into the Val Fex, some way below the glacier at its head, is very steep. As mentioned in Rte. A, the Val Fex opens out near the hamlets of Maria and Sils, and the return to Pontresina is by the high road. A long day is required for the expedition, but the tired traveller may engage a vehicle

at Silvaplana for his return to Pontresina.

10. *The Val del Fain*. This excursion is chiefly recommended to botanists, and especially to those who may reach Pontresina early enough to find the rich vegetation in perfection. The *Val del Fain* is a glen opening into the Bernina road, a little above the Bernina Inn. The name is derived from the richness and abundance of its hay. At its eastern E. is a pass leading into Val Livigno, and another to the N., into Val Chiamuera (Rte. A).

### ROUTE C.

#### BEVERS TO ST. MORITZ, BY VAL BEVER.

The great majority of travellers will always follow the high road between Bevers and St. Moritz; but to the naturalist or the geologist there are many inducements to turn aside at the first-named village, and to make a circuit by the line of valley which cuts off the group of peaks connected with Piz Ot from the adjoining mass of Piz d'Err and its associated summits.

The *Val Bever* is a comparatively deep trench parallel to that of the Albula Pass (§ 35, Rte. C), but lying at a considerably lower level. The lower part is so nearly flat that a char-road is carried nearly 3 m. from Bevers for the convenience of the herdsmen of the valley. In 2½ hrs. from Bevers the track reaches a group of chalets at a point where the valley forks. The SW. branch, traversed by a torrent from the Glaciers of Piz d'Err and Cima da Flix, retains the name Val Bever, while a branch descending from the S. is called *Val Suvretta*. The Val Bever is often visited by botanists, being considered the richest locality for rare plants in this district. *Ranunculus parnassifolius*, *Lychnis flos Jovis*, *Dianthus glacialis*, *Saxifraga controversa*, *Valeriana supina*, several curious hybrid gentians,

*Pedicularis incarnata*, *Kobresia caricina*, *Carex VahlII*, and *C. microglochin*, are among the most interesting species. Following the Val Suvretta, the traveller reaches a flattened saddle between Piz Nair (10,040') and *Piz Suvretta* (10,085'). A small tarn rests on the ridge which may conveniently be called *Suvretta Pass* (8,589'), and a glen falls towards the SE. to Campfer. A traveller with a guide may reach St. Moritz by a more interesting rte., passing along the S. side of Piz Nair to the Alp Giop, and thence to St. Moritz.

The geologist will find occupation in tracing the palæozoic and secondary rocks in the ranges enclosing the head of Val Bever. There is a difficult glacier pass connecting the head of the valley with the Val d'Agnelli near the Julier Pass, and another, not less arduous, into the Val d'Err, by the NE. side of the Piz d'Err (§ 35, Rte. A).

### ROUTE D.

#### TOUR OF THE BERNINA—SELLA PASS.

Since English, Swiss, and German mountaineers have made the Bernina Alps their favourite resort, several new passes have been discovered, and there is now a choice between various routes for making a tour of the principal group. This expedition can be recommended only to practised mountaineers, with good guides and fine weather. Nearly all the travellers who have made the tour here indicated have sought shelter at the *Fellarius Alp*, a group of chalets lying in the upper part of a lateral glen of Val Malenco (Rte. G), and there is but one direct course between that place and Pontresina by the W. side of the Piz Bernina, which is that described below as the Sella Pass. On the E. side of the P. Bernina there is open to the mountaineer a choice between various routes which are here briefly indicated. In regard to high glacier passes, such as those here noticed, the writer does not believe that directions given in a guide-book



can supply the need of local knowledge, or at all events of the aid of a first-rate guide.

1. *By the Passo Rovano* (8,596'). This is the least circuitous way for reaching the Fellaria Alp from Pontresina for those who do not wish to undertake a glacier pass. The way is by the high road of the Bernina as far as the Lago Nero, and thence by the Cavaglia track (Rte. K) to the Palü Alp. From those chalets there is little difficulty in skirting the slopes of the *Cornicella* (9,223'), and the spurs of the Pizzo di Verona, keeping to the rt., as high as the nature of the ground will allow, until the pass is attained lying at the S. side of the last named peak. It is indicated without a name on the Swiss Federal Map. It leads into the NE. branch of the Val di Campo Moro (Rte. I), close to the lower end of the Fellaria Glacier. It is necessary to cross a glacier stream, and ascend on the opposite, or W. side, in order to reach the highest chalets of Fellaria, which are thus reached in 7 hrs. walking from the Bernina Inn, or 9 hrs. from Pontresina.

2. *By the Passo di Gambrè*. This name is given on the Austrian Map of Lombardy to the pass connecting the Palü and Fellaria glaciers, though the dotted line on that map does not correspond with the course which must be taken, and the pass seems to be unknown to the natives. It is advisable to sleep at the Palü Alp, or Grün Alp (Rte. K), or else to start before daylight from the Bernina inn. Skirting the slopes above the N. side of the Palü glacier, the l. moraine is reached in  $1\frac{1}{2}$  hr. from the Grün Alp, just above the lower ice-fall. In  $\frac{1}{2}$  hr. the nearly level part of the glacier is traversed to the foot of the higher ice-fall. Early in the season it seems not difficult to continue the ascent by the glacier, but it may sometimes be necessary to bear to the l., and cling to the rocks of the ridge connecting Piz Cambrena with Piz Palü. By keeping well to the l. near to Piz Zupô, the descent of the

Fellaria Gl. is effected without serious difficulty, and the route of the Sella Pass is joined about  $2\frac{1}{2}$  hrs. above the Fellaria Alp.

3. *By the Cambrena Sattel*. In 1865 several expeditions were made with a view to reach the upper névé of the Palü Gl. by the Cambrena Glacier, a more direct course from the Bernina Inn than that last described. This is best effected by the *Cambrena Sattel*, a well-marked gap in the ridge E. of the Piz Cambrena. It may be reached from the Bernina Inn in  $2\frac{1}{2}$  hrs. Bearing to the rt., over shaly slopes, from this gap, the traveller may either ascend by the upper ice-fall, or by steep rocks on the N. side of the Palü Glacier, joining the route of the Passo di Gambrè. By this way the Fellaria Alp was reached in  $12\frac{1}{2}$  hrs. from the Bernina Inn.

4. *By the Palü Pass*. It is obvious from a glance at the map that the most direct way from Pontresina to the upper plateau of the Palü and Fellaria Glaciers is by the Morteratsch Gl., supposing it possible to find a practicable pass between Piz Cambrena and Piz Zupô. That which alone may be considered tolerably direct lies very near the summit of Piz Palü, between the highest peak and the rather lower W. peak. The glacier difficulties in ascending from the Isla' Pers (Rte. B) try the skill of the guides and the steadiness of the travellers; and the descent, whether by rocks or by an ice-couloir, is extremely steep. This course was taken in 1864 by Messrs. Freshfield, Beachcroft, and Walker. It is possible to pass the ridge between the Morteratsch and Fellaria Gl. farther W. on either side of the projecting rocks called Bella Vista, but this course is more circuitous, though the pass is much lower.

The form and position of the glaciers on the S. side of the Bernina group deserve especial attention. Although the valleys descending towards Val Tellina all tend more or less directly to the S., the reservoirs in which the névé

of these extensive glaciers is accumulated are formed by ridges running E. and W. The Scerscen Glacier is formed of two such reservoirs, resembling frozen lakes rather than glaciers, one being at a much higher level than the other; and it seems probable that the same conditions obtain in the Fellaria Glacier, which has been very imperfectly explored.

From the upper chalets of the Fellaria Alp, which are deserted at the end of August, the way to the Sella Pass is by a rather long ascent over steep but not difficult rocks, avoiding an ice-couloir which is left on the rt., till, in  $2\frac{1}{2}$  hrs. from the Alp, the névé of the Fellaria Glacier is reached. The lower plateau of this glacier is nearly level with the upper plateau of Scerscen, and by bearing first NW., and then W. below the rocky ridge descending from Piz Zupô, the low rounded ridge of névé dividing the two glaciers is crossed. The way then lies a little N. of W. over an unbroken field of névé commanding glorious views in every direction, until the *Sella Pass* is attained in about 5 hrs. from the chalets;  $2\frac{1}{2}$  hrs. suffice for the descent to the foot of the Roseg Glacier, and 2 hrs. more to Pontresina.

The only important pass not yet achieved in this district is that from the Tschierwa to the head of the Scerscen Glacier, between Piz Bernina and Piz Roseg.

#### ROUTE E.

##### COLICO TO BORMIO, BY THE VAL TELLINA.

	Kilomètres	Eng. miles
Morbegno . . .	17	10½
Sondrio . . .	25½	15
Tirano . . .	26½	16½
Bolladore . . .	19½	12½
Bormio . . .	19	12
	107½	67½

Diligences run daily in summer between Bormio and Tirano, and every day between that place and Colico, although they have ceased to traverse

the Stelvio pass since 1859. Light carriages can usually be hired at a reasonable rate. The road here described forms a portion of the great military road of the Stelvio, constructed by the Austrian Government at a vast expense, between the years 1822 and 1825, to connect Milan with the Tyrol.

The *Val Tellina* (Germ. *Vellin*) is one of the great valleys of the Alps that by its dimensions, its historical recollections, and the beautiful and varied scenery of the main valley and its tributaries, best deserves the attention of strangers; but, in part owing to the fact that it lies out of the ordinary track of English tourists, in part to the bad reputation of the lower portion, supposed to breed intermittent fevers, it has failed to attract much attention. Except at Colico, there is no risk of malaria, but the great heat of the valley below Tirano repels the lovers of mountain air.

The people of the Val Tellina are characteristically Italian, though they have but lately become citizens of the constitutional monarchy. Long subject to the Grisons' leagues, who lorded it over them with a heavy hand, they were annexed to the Austrian states in 1815. They owe to that government the great road that traverses the valley, along with an unbearable load of taxation. Though it has suffered much from destructive inundations—a mischief much aggravated by the unwise cutting down of the forests—the valley is extremely fertile, producing much fine silk, and some excellent wines.

From Colico, nearly to Tirano, the valley mounts very gently, and about due E. It is then turned NE. until it reaches its natural termination at the defile of Morignone. Here the Adda, formed by the confluence of two copious torrents flowing in opposite directions, and meeting near Bormio, descends from the N. through the Serra di Morignone. This was long the political boundary of Val Tellina. Bormio struggled for a separate existence, or underwent the sway of many successive masters.

The military road is carried nearly due E. from Colico to Morbegno, along the S. side of the marshy tract that has been formed by the detritus of the Adda; the high wooded spurs of the Monte Spluga to the N., and the Legnone to the S., form fine pictures. The boundary of Val Tellina is reached about 3 m. from Colico. Nearly 6 m. from that place is *Delebio*, near the opening of a mountain glen (*Val Lessina*), through which a steep and rough track leads to Premana (§ 38, Rte. H). On the opposite side of the Adda, at some distance from the stream, is *Traona*, the chief village on that bank.

*Morbegno* (Inn: Regina d'Inghilterra, good; the cellars used to contain some excellent wine of the valley), stands on rising ground, 853 ft. above the sea, near the site of the ancient town. This was partly destroyed by a great landslide, and consequent inundation of the Bitto, which here enters the valley from the N. (For the passes at the head of Val di Bitto, see § 38.)

This is a substantial country town, with a fine church. There is a commanding view from the hill on which stood the ancient castle, reached by the paved path leading into the Val di Bitto.

A long stretch of straight road, first descending, then remounting, takes the traveller for the first time near to the l. bank of the Adda, and after following its course for a short way, crosses to the rt. bank at the base of a steep rocky hill. On rounding this obstacle, the opening of Val Masino (Rte. F) is seen to the l., and the road crosses the copious torrent that escapes from it, which is held in by massive dykes from inundating the surrounding fields and meadows. Before long the main road returns to the l. bank to avoid a great bend of the river, and in rather more than 2 m. again takes to the rt. bank, to which it adheres until it reaches Tirano. This part of the valley is in some degree defaced by the encroachments of the Adda, whose un-

governable stream often changes its course during inundations. Thus it may be seen, that in the part of the valley now traversed, a little SW. of the village of Berbenno, the river no longer follows the course represented in so recent a map as the Swiss Federal Survey. It is not only the main stream, and the torrents which enter it from the large lateral valleys, that continually threaten the native of Val Tellina with destruction to the fruits of his industry. The trifling channels on the slopes of the mountains, nearly dry in ordinary weather, are liable to swell in a few hours to formidable proportions, and to bear down with them stones and earth, under which the vineyard created by patient labour may be buried in a few moments. The mischief mainly arises from the violence of the rains that fall on the S. side of the Alps, far exceeding anything usual in Switzerland, but it has been aggravated by the rash removal of many of the forests from the flanks of the mountains and the upper valleys. As an illustration, it is said that the commune of *Berbenno*, a village standing N. of the high road, sold a great part of the woods above it for 138,000 francs, and that the damage since done by inundations and landslips due to the same cause amounts to 700,000 fr.

On the S. side of the Adda are seen two valleys—*Val Madre* and *Val Cervo*—each leading to a pass into Val Brembana. About 3 m. farther, on the same side of the Adda, is seen the village of *Cajolo*, at the opening of the more considerable *Val del Livrio*, also leading to the upper end of Val Brembana. The *Pizzo Vespolo* (7,648') is a prominent point on the W. side of Val del Livrio, and must command a very fine view of the Bernina Alps and the other ranges enclosing Val Tellina. To the l. of the high road are the vineyards of *Sassella*, producing one of the most esteemed wines of the valley.

*Sondrio* (Inns: Alb. della Maddalena, fair: Corona, or Post, perhaps

the best; Angelo, small and cheap) is the chief town of Val Tellina, once seat of a governor, now of the prefect of the province. Though not large, it has somewhat of the air of a city, containing many good houses and educated inhabitants. The mineralogist may easily obtain permission to see the collection of Signor Giuseppe Sertoli; and a botanist will probably not find it difficult to inspect the local herbarium of Signor Ferrari. The town stands at 1,198 ft. above the sea, at the junction of *Val Malenco* with the main valley. The *Malero* torrent issuing from it is one of the most destructive in Val Tellina. Many new buildings in the town occupy the sites of houses carried away by it in 1834. A massive embankment is designed to protect the town, and to lead the torrent into the Adda; but every heavy fall of rain threatens danger to the inhabitants. It is well worth while to make a slight ascent to the ancient castle, called *Masegra*, commanding a very fine view of the town and its neighbourhood. On the opposite bank of the Malero, the local antiquaries point out the site of the original city founded by the Tuscii.

Few places present more remarkable contrasts than the neighbourhood of Sondrio. Within a few miles of the glaciers of the Bernina and the Monte della Disgrazia, we have here the climate and the vegetation of the shores of the Mediterranean. The fig-tree and opuntia have run wild, the pomegranate ripens its fruit, and delicate Southern shrubs are seen in all the gardens.

Cretinism and goitre exist in many of the villages between Sondrio and Tirano. It is said that the valley would not be habitable in summer, but for the currents of air introduced through the lateral valleys to the N. and S., and the western breeze, here called *brevu*, blowing from the Lake of Como during the day-time in hot weather.

On leaving the town, the road passes

near a fine new hospital, built for 14,000*l.* at the cost of a private inhabitant named Pelosi. On the slopes to the l. of the road are the vineyards of *Montagna*, producing a wine that ranks next after the *Sassella* and *Inferno*. The last-named comes from a vineyard near *Pendolasco*, about 2 m. from *Montagna*. Since the grape disease, it has been difficult to obtain the finer qualities of Val Tellina wine tolerably pure, except in private houses. On the S. side of the Adda, near *Piateda*, opens *Val Ambria*, one of the chief valleys on that side of the river. Of its two main branches, one descends from the E., the other from the W. side of the *Pizzo del Diavolo* (9,574'). The first leads to the *Val Seriana*, the second to *Val Brembana*. The portion of the main valley, extending hence to *Tirano*, is the least interesting part of the present Rte. Numerous large villages are scattered along the sunny slopes on the N. side of the river. Several of them were in turn important places during the Middle Ages, when one or the other was chosen as the residence of some local potentate. It would be interesting to ascertain the true nature of the great mound on which stands the village of *Tresivio*, conspicuous from a distance. Some have supposed it the remains of a bergfall; it may be part of an ancient moraine. At *Chiuro* is the opening of *Val Fontana*. There must be a pass to *Le Prese* (Rte. K) from the head of that glen, though none is indicated on the Swiss Federal map. On that map is laid down a pass over the glacier on the S. side of the *Pizzo Sculino* (10,925'), by which a mountaineer could return to Sondrio through a branch of *Val Malenco* called *Val Antognasco*. Nearly 3 m. beyond *Chiuro*, the main valley is for the first time contracted between the opposing bases of the mountains, at a place called *San Giacomo*; but it soon opens out again, and the road is carried at some distance from the Adda, and about 12 m. from Sondrio the road reaches

**Tresenda.** Here a bridge across the river has been constructed for the new road over the Aprica Pass to Edolo, in Val Camonica, § 39, Rte. E. The traveller not pressed for time will do well to mount as far as the place called Belvedere, and enjoy the remarkable view, extending fully 30 m. along the valley of the Adda. In a carriage it takes 2 hrs. to ascend from Tresenda, and 1 hr. to return. A pedestrian, availing himself of short cuts, will mount in  $1\frac{1}{2}$  hr. From the lower part of the new road a path to the rt. enters the *Val Camonella*, which leads due S. to a high pass connecting Tirano with the head of Val Seriana (§ 38).

On the slope of the mountain, NW. of Tresenda, all built up in terraces for vines, is *Teglio*, once the capital of the valley to which it has given its name (Val Teglina, corrupted into Val Tellina), and formerly inhabited by powerful families. It is now a mere rural village, whose inhabitants suffer much from a destructive torrent. Leaving to the l. *Bianzone* and *Villa*, the road keeps along the flat, passing (about 3 m. from Tirano) an ancient arch under which the Adda flowed until 1817, when it made for itself a new channel. About 2 m. farther is the bridge over the Poschiavino torrent, which is carried thence between massive dykes to join the Adda. Here the traveller reaches the famous sanctuary of *La Madonna di Tirano*, where a church, rich with precious marbles, has annually drawn thousands of pilgrims since its foundation in 1520. The Inn (San Michele) is better than those at Tirano, and the position more attractive. Here the road of the Bernina Pass (Rte. K) enters from the Engadine, and the snowy peaks seen to the NW. offer a striking contrast to the richness of the foreground. The view from the terrace of the church of Sta. Perpetua is extremely fine, and the ruined fortress of Plattamala on the Swiss frontier, only 1 m. distant, is worth a visit. A fine avenue of poplars, nearly 1 m. in length, leads from La Madonna to

**Tirano** (Inns: Due Torri, tolerable; Angelo), formerly a walled town of great strength, now open on all sides, lying on the l. bank of the Adda, at 1,509 ft. above the sea. The traveller is surprised to find in this remote country town the stately mansions (*palazzi*) of many existing noble families whose ancestors played a prominent part in the troubled and eventful history of the Val Tellina. The church of San Martino has a fine organ, but there is not much here that need detain a stranger. The high road is now carried along the l. bank of the Adda, and soon reaches a point at the junction of a torrent from *Val Chiosa*, where the river is contracted between the bases of the mountains. This is the natural boundary between the middle portion of the valley of the Adda, and the lower valley extending hence with a very gentle slope to the L. of Como. In 1807 a berg-fall from the *Monte Masuccio* (9,252'), on the NW. side of the valley, fell into the defile, and dammed the course of the river. The waters accumulated to a considerable height, and at the village of Lovero the traveller may see a mark on a house 18 ft. above the ground, recording the utmost limit of the waters. The dam seems to have yielded gradually, as the damage done in the neighbourhood of Tirano was less serious than might have been expected. Many ruined castles may be seen on either side of the river, as this entrance into Italy was always deemed of the utmost importance, and for many centuries the unfortunate inhabitants rarely enjoyed a long respite from the presence of foreign troops. At *Mazzo*, where the church has a fine altar-piece by Malacrida, the road returns to the rt. bank, and soon reaches *Grosotto* (2,188'), where the *Roasco* torrent issues from *Val Grosina*. There is an Inn (Posta), and near to it the house of Giacomo Robustelli, wherein was laid the plan of a massacre that combined the elements of the Sicilian Vespers and the slaughter of St. Bartholomew, equalling

both of them in unsparing ferocity. Patriotic feeling urged the leaders to throw off the yoke of the Grisons rulers, and religious hatred prompted their destruction as heretics. When the blow was struck, and every hand was raised against the fugitives, equally hated as foreign usurpers and as Protestants, the people of Morbegno were alone distinguished by the charitable reception which they accorded to their enemies. [The *Val Grosina* is one of the neglected valleys of the Alps that has not as yet attracted the attention of travellers or men of science. A few miles above Grosotto it divides into two equal branches, one extending about due N., the other due W. The first of these leads to an easy pass E. of the Pizzo di Dosdè, and a traveller might go that way from Grosotto to Bormio, descending through *Val di Verra* into Val Viola, and so reaching the Val di Dentro (Rte. L). The W. branch of Val Grosina might well be taken in the way from Bormio to Pontresina, as it is connected by at least four passes with the valley of Poschiavo. Reckoning from S. to N., the *Forcola di Braga* (8,435') leads to Le Prese: the *Forcola di Sassiglione* (8,333'), and *Forcola di Rosso* (8,819'), afford a more direct way to Poschiavo, the one to the S., the other to the N. of the Pizzo *Sassalbo* (9,377'). More interesting than these is probably the *Passo di Sacco* (9,026'), between the Pizzo di Teo (10,007') and *Cima di Saoseo* (10,729'). The latter pass does not lead directly into the valley of Poschiavo. The track descends into the Val di Campo (Rte. L), about 1 hr. above the point where it opens on the high road of the Bernina. The traveller coming from Bormio need not descend to Grosotto in order to enter Val Grosina, as there is a track from Sondalo by the *Passo del Gatto*; but this is said to be a high and somewhat difficult pass.]

After passing *Grosio*, the road soon reaches a bridge that carries it to the l. bank of the Adda. Here a path is seen to the rt, marked with a finger-post to

*Mortirolo*. This leads by the *Passo Mortirolo* (6,053') and a lateral valley of the same name to Val Camonica, which is entered about  $\frac{3}{4}$  hr. above Edolo.

The portion of the valley now traversed by the high road is extremely picturesque. To the rt. is a tempting cemetery, where the departed rest under the shade of noble chestnut-trees. The Miggiondo torrent enters the valley from the N. through a gorge, and on the rt. of the road bold rocks give shade from the noonday heat. The last chestnut-trees are passed, and then the mulberry and the walnut reach their limit, about the post-station of *Bolladore* (2,838'). This is divided by the Adda from

*Sondalo*, the chief place in the Upper Val Tellina. The population here are thought to be the finest in the valley. The road continues along the l. bank, passing opposite a picturesque church of St. Agnese, and a ruined castle, rising above the contracted bed of the valley. This enlarges a little at *Mondadizza*, but soon narrows again, and the road turns due N. as it enters a defile that extends in that direction for several miles. The Rezzalesco torrent here issues from *Val di Rezzo* to join the Adda. [Following that glen to NE., in the direction hitherto pursued by the main valley, the pedestrian may reach a pass that leads him to Sta. Catarina (§ 37, Rte. B); or he may turn to the rt., and reach Vezza in Val Camonica by a track passing over the *Sasso Maurone*.] At Le Prese the road enters the finest part of the defile, crossing to the rt. bank of the Adda, and returning to the l. bank at the Ponte del Diavolo, a fine bridge resting on two huge blocks. Labrador spar, and other fine minerals, have been found in this neighbourhood. The defile, whose central point is the so-called Devil's Bridge, is called *Serra di Morignone*, from a hamlet at its N. end. This has always been considered the natural limit between Val Tellina and the *Valle di Sotto*, or Val Ceppina, extend-

ing to Bormio, and forming part of the territory of that town. The defile was strongly fortified at various periods, and the remains of military works are seen at several points. The ascent is here rather rapid, and there is a very manifest change of climate as the road emerges into the upper valley. After passing opposite to the village of *Cepina*, the valley opens out, backed by a portion of the range of Monte Cristallo, and the traveller soon reaches

*Bormio* (Inns: *Posta*, very fair, much improved; there are two or three others of lower grade, but most travellers go on to the Baths), 4,016 ft. above the sea. The town and Baths are described in § 37, Rte. A.

### ROUTE F.

#### MORBEGNO TO THE VAL BREGAGLIA, BY VAL MASINO—ASCENT OF MONTE DELLA DISGRAZIA.

Having in the preceding Rtes. described the two great valleys that form the N. and S. boundaries of the Bernina Alps, it will now be convenient to notice the tributary valleys and passes by which they are connected together.

The westernmost of these secondary valleys is the *Val Masino*, abounding in objects of interest to the lover of nature in her wilder aspects, yet very rarely visited by strangers. There is very fair accommodation at the *Bagni del Masino*, now accessible by carriage-road. Three passes, none of which can be called easy, connect the head of this valley with *Val Bregaglia*.

1. *To Castasegna, by the Forcella di Rochette*. 5 hrs. to the Baths, 7 hrs. (?) thence to Castasegna.—A char from Morbegno to the Baths may be had for 10 frs., but, except for the first 4 m., little time is saved by it. As mentioned in Rte. E, the opening of *Val Masino* is about 4 m. from Morbegno. A road partly new and practicable for light carriages, but not shown on any map, mounts through

the valley, turning off from the high road to Sondrio immediately after this has crossed the bridge over the *Masino* torrent. At the lower end of *Val Masino* the torrent is forced aside from its southern course by a steep hill, called *Colmine del Dagio*, and flows eastward round its base through a narrow defile. The road ascends the steep slope N. of the village of *Masino* by several zigzags, and then winds along the face of the mountain till it fairly enters the valley at a great height above the stream, near a hamlet called *Pioda*. In the lower part of *Val Masino* the rocks are apparently composed of metamorphic schists and sandstones, which pass by insensible gradations into gneiss. Neither does it appear easy to fix a limit between the gneiss and the granitic rocks of the range dividing this valley from *Val Bregaglia*. The latter are very variable in appearance and composition, sometimes much resembling the well-known *Serizzo Ghiandone* of the erratic blocks about the Lake of Como. As the traveller advances, the scenery increases in interest. On the opposite side of the valley a torrent descends through a lateral glen called *Val di Spluga*, not easily reached from the road, and leads up to the E. side of the peak of *Monte Spluga* (9,351'). This summit, which must command a very fine view, is easily (?) reached from this side. At *Cattaeggio*, where a torrent originating on the SW. flanks of the *Monte della Disgrazia*, and flowing through a glen called *Val di Sasso Bisolo*, enters the valley, the road crosses to the rt. bank of the *Masino*, and continues to ascend through a scene of extraordinary wildness. It would appear that at various intervals enormous masses of rock have fallen from the face of the mountain on the W. side of the valley. Some of the more ancient are mossed over, and the people have contrived to grow small patches of potatoes in earth that has been carried up, and laid out on the top of some of these boulders. Among the more recent blocks, proba-

bly fallen within the last two or three centuries, are some of the most prodigious single masses that are to be found in the Alps. One of these, lying close to the road, by far exceeds any with which the writer is acquainted. It is an irregular paralleloiped, measuring 250 ft. in length, 120 ft. in breadth, and 140 ft. in height; so that, even deducting one-fourth for the irregularity of its form, it must contain more than 3 millions of cubic feet of stone. After passing these great blocks the road traverses a tract of flat marshy meadow, and in about 13 m. from Morbegno reaches the fork of the valley. The most considerable branch of the torrent descends from ENE. through the Val di Mello, while the other, nearly exactly opposite, flows from the W. through the short and very beautiful glen called the *Val de' Bagni*. On the N. side of the junction is the poor village of San Martino. The road leaves it on the rt., crosses the western torrent, and ascends along its l. bank. In about 2 m. farther the traveller reaches the

*Bagni del Masino*, a small establishment, where some patients are found in the height of summer, very beautifully situated, in the midst of pine and larch forests surmounted by granitic aiguilles, and close to several picturesque cascades. The accommodation is very fair, the charges reasonable, and the place deserves to be more generally known. The height is about 3,750 ft. above the sea, or nearly 3,000 ft. above the village of Masino at the opening of the valley, so that the change of climate is very perceptible, and in hot weather highly agreeable.

The man who was first recommended to the writer as a guide, is employed as guard over the woods near the Baths, and knows the paths, but is utterly incompetent for mountain-work. Salvatore Fiorelli of San Martino, whose experience is probably gained as a smuggler, is a far better man, seems to know all the high passes well, and has

an air of quiet determination that promises efficiency. In this unsophisticated valley these men are glad to earn 5 francs a day as guides.

Immediately above the Baths one branch of the torrent descends from WSW., while the main branch of the valley mounts due N., and is called *Val Porcellizza*. It is easy to ascend for some distance by a wood-cutter's path on the rt. side of the torrent, and thus gain a view of the lower cascades; but the regular way to the upper part of the Val Porcellizza is by the E. side, at some distance from the stream. The excursion is worth making, even for those who do not intend to cross either of the passes here mentioned.

About 1½ hr. must be allowed for ascending by a good path to the upper level of the valley, above a fine waterfall, where a considerable alp supports a large number of cattle. The principal chalet, here, as in many parts of Lombardy, called *baita*, lies on the E. side of the torrent—the Swiss Federal map being here incorrect as to minute details—at about 6,600 ft. above the sea, on a level with the superior limit of the larch.

The head of Val Porcellizza is enclosed by several bold peaks standing in a semicircle in the following order, reckoning from W. to E.:—*Pizzo Porcellizzo* (10,092'), *Cima di Tschingel* (10,853'), *Punta Trubinesca* (11,106'), and a nameless peak (10,820'). The Punta Trubinesca seems inaccessible from this side, and the Cima di Tschingel appears difficult; both summits have, however, been attained, the latter by Mr. Coolidge in 1867. The only moderately easy summit is the Pizzo Porcellizzo, which has on the summit a stone man erected by the Swiss engineers, who made this a trigonometrical station, although it lies altogether in Italy. The view to the W. and S. is very fine, including a considerable part of the Lake of Como. That to the E., concealed from the writer by a storm-cloud, is doubtless limited by the higher neighbouring



peaks, but probably includes the Monte della Disgrazia. The other summits above mentioned lie on the boundary between Val Masino and Val Bregaglia, here forming the frontier between Switzerland and Italy, while the Porcellizzo overlooks the head of Val Codera, one of the roughest and wildest glens in the Alps. The way from the Baths to Castasegna crosses the head of Val Codera. The ordinary way is over the ridge W. of the châteaux of Porcellizza, and some way S. of the peak, about where indicated on the Swiss Federal map, but the track is scarcely (? if at all) visible. A steep descent into the head of Val Codera is followed by a no less steep ascent to the *Forcella di Rocchette* (about 9,000'), whence a very rapid descent leads down to Castasegna (Rte. A). The distance in a right line is less than 3 m., and the difference of level exceeds 6,500 ft.

Instead of reaching Val Codera by Val Porcellizza, the traveller may take a track that mounts WSW. from the Baths of Masino to the Alpe di Ligoncio. Thence the way lies rather N. of W. to the summit of the ridge dividing that alp from Val Codera, and then NW., reaching the torrent of the latter valley nearly at the same point as by the course above described. The name Ligoncio, belonging to the mountain-pasture mentioned above, has been erroneously given on the Austrian maps to the highest point in the range N. of Val Porcellizzo.

2. *To Bondo, by the Passo di Bondo.*—There is considerable doubt as to the true position of the pass which is spoken of in Val Masino as Passo di Bondo, connecting Val Masino with the tributary glen of Val Bregaglia, called *Val Bondasca*. The *Bondasca Glacier*, at the head of the latter glen, is an almost continuous ice-fall, enclosed by extremely bold granitic aiguilles. 'If there be any pass, in the ordinary sense of the word, from Val Porcellizza to the Bondasca Gl., it lies not close to the Punta Trubinesca, as shown in the Federal Map,

but considerably farther E.' [F. F. T.] In 1864 Messrs. Freshfield, Beachcroft, and Walker traversed a snow col—called by them *Passo di Ferro* (about 10,000')—at the head of the Bondasca Gl., which led them to a short wild glen called *Val di Ferro*, about due N. of S. Martino. Following the stream, they reached the Val di Mello about  $\frac{1}{2}$  hr. E. of that village. None but experienced ice-men should attempt either of the above passes.

3. *To Vico Soprano, by the Passo di Zocca.* This is a fine pass, quite easy in fine weather, but very laborious if made from Morbegno, as it involves an ascent of more than 8,000 ft. besides a long walk. It is a better plan to divide it into two days, making a slight détour to the Baths, and enjoying the fine scenery of that branch of the valley. Those who go from Morbegno must take food, and cannot always find milk at the châteaux lying near the track. The name by which the pass seems to be universally known in the district is here retained in preference to that of *Forcella di San Martino*, set down in the Swiss Federal map. A guide should be taken, as in case of clouds coming on it would be impossible to find the way.

From the village of San Martino, where the torrent from the Val de' Bugni joins that from Val di Mello, an easy path is carried along the rt. bank of the latter stream. The *Val di Mello* is less picturesque than the other branch, but on a grander scale. On the N. side a torrent issues in a waterfall from a lateral ravine, and it is possible to ascend that way and so reach the Zocca Pass. But the course is difficult and would take more time, nor is it likely to be adopted except by a smuggler. The shortest way to the Zocca Pass does not lie by the l. bank of the Zocca torrent ascending from Rasica, as shown in the Swiss Federal map. At a point about  $\frac{1}{4}$  hr below Rasica, and 2 $\frac{1}{4}$  hrs. from the Baths of Masino, the ascent is commenced up a steep stony slope where deciduous trees are still mingled with pines. The

bridge by which the track crossed the Zocca torrent was carried away in 1863; and it was then necessary to climb some way up the rt. bank, and then descend to a second bridge. A steep ascent through pine woods, broken here and there by knolls of rock, leads to a chalet (*haila*) which is occupied only for a short time as the herdsman shift their quarters. Towards the upper part of the lateral glen leading to the pass it is necessary to bear to the l., and the last ascent is but little N. of W. The way is steep, but not at all difficult, and the view is both grand and interesting from its novelty. The *Passo di Zocca*, or *Forcella di San Martino* (8,957'), lies between the *Monte di Zocca* (10,565') to SW., and the *Cima del Largo* (11,162') ENE. of the pass. On reaching the crest of the ridge the traveller finds himself unexpectedly overlooking the head of a great glacier that stretches before him for several miles towards the N., between two ranges of granitic peaks, several of which surpass 10,500 ft. The *Albigna Glacier* (Ital. Ghiacciajo dell' Albigna) is remarkably easy to traverse. A very short descent takes the traveller on to the upper névé, and he soon reaches the ice, which inclines gently to the N., and is almost completely free from crevasses. The glacier comes to an end on the level floor of the upland valley, a short way above the point where the rapid descent into Val Bregaglia abruptly begins. The glacier torrent commences its troubled career by springing boldly from the edge of the rocks in a fine cascade. The glacier should be left by its l. bank, and on that side of the stream a tolerable path leads down to the lower valley. The scenery is throughout very beautiful, and the whole way from Morbegno to Vico Soprano will be long remembered as one of the most interesting of alpine expeditions.

*Ascent of Monte della Disgrazia* (12,074'). In the first number of the 'Alpine Journal,' Mr. E. S. Kennedy has given an account of the ascent of Monte

della Disgrazia by himself and Mr. Leslie Stephen, with Melchior Andereg and an English servant named Cox. A first attempt from the side of Val Malenco having been unsuccessful, they went a few days later to the Baths of Masino, and, starting from thence before midnight, reached the summit in about 12 hrs., returning to San Martino in 5½ hrs. They appear to have passed by the Alpe di Pioda, on the W. side of the mountain, and to have attained the highest crest connecting the two principal peaks in part, at least, by the ridge which divides the head of Val di Mello from that of the Val di Sasso Bisolo. Mr. Tuckett reached the highest peak in 1867 from the head of the latter valley, a preferable route.

A pass over the ridge SW. of Monte della Disgrazia, by which Sondrio is reached from the head of Val di Mello in much less time than by Val Masino, has been pointed out to the Editor. This leads to the head of the Val di Sasso Bisolo, and involves a second pass on the opposite side of that valley, either by the E. or the W. side of the *Corno Bruciato* (9,711').

Two new passes have recently been effected over the ridges at the head of Val di Mello. The first has been called 'Disgrazia Joch' by Mr. Tuckett, who first traversed it in 1865, with Messrs. H. Buxton and Freshfield. The writer regrets that he cannot adopt a German designation for a pass lying in Italian territory, and provisionally calls it *Passo di Mello* (about 9,500). It lies over one of the deepest depressions in the range connecting Monte Disgrazia with Monte Sissone. The way is by the rt. bank of a small glacier which comes to an end nearly 1 hr. above the highest malga in Val di Mello. The descent is for ½ hr. over steep rocks, then by the much crevassed Disgrazia Glacier, which is left about 1 hr. from Chiareggio (Rte. G). The other new pass leads to the head of the *Forno Glacier*, the longest ice-stream in this part of the range which sends its tor-

rent—the *Ordlegna*—to swell the Mera close to the top of the Maloya Pass. To reach it from Val di Mello, it seems necessary to cross the range close to the summit of *Monte Sissone* (10,800'), the corner-stone between the main range and the great ridge of *Monte della Disgrazia*. It is best reached by a couloir W. of the summit, which commands a magnificent view.

## ROUTE G.

## CASACCIA TO SONDRIO, BY THE MURETTO PASS.

6 hrs.' walking to Chiesa. 3 hrs. by road thence to Sondrio.

This is the easiest pass from the Val Bregaglia to Val Tellina, but is scarcely so interesting as those described in the last Rte.

The diligence-road over the Maloya is followed from Casaccia to within about  $\frac{1}{4}$  hr. of the summit of that pass. A footway then turns off to the rt., leading past the chalets of Lampalü, where there is a mountain still famous, it is said, for its *schuups*. The path continues on the rt. bank of the *Ordlegna*, near the stream. Traces are seen at intervals of an ancient paved road, for the most part destroyed, or buried by débris. The pass is still said to be practicable for mules, though not often traversed. A higher track on the talus of the Piz Margna is very rough, and causes a loss of time. In about 2 hrs. from Casaccia, the chalets of Piancaning (6,519') are passed opposite the foot of the Forno Glacier. From this point the ascent becomes steeper, continuing in a SE. direction. In about another  $\frac{1}{2}$  hr. the first snow is reached, the permanent remains of avalanches from the steep mountains on both sides. Near the summit a small glacier descends from the *Monte d'Oro* (10,545') on the rt., and the traveller should keep well to the l. to avoid its crevasses. The route then lies to the l. of a slight elevation which rises in the centre of the pass and about 200 ft. above it, and the summit

is reached in about  $3\frac{1}{2}$  hrs. Its height by Dufour's map is 8,616 ft. The view is much shut in, and not very striking; and is better on either side at some distance down than at the summit. In descending to the SE., some considerable patches of snow are first crossed; then keeping the l. bank of the stream, the path soon becomes distinctly marked, and fine views of the *Monte della Disgrazia* open in front. After about 2 hrs.' steep descent, the valley tends to the E., the descent becomes more gradual, and about  $\frac{1}{4}$  hr. farther passes the ruinous chalets of *Chiareggio*, where stood formerly, and not long ago, a custom-house. The path continues on the l. bank of the *Malero*, about 1 hr. farther to Prati della Casta, where there is a steep descent, and then crosses to the rt. bank. A slate quarry is passed about  $\frac{3}{4}$  hr. farther, and in rather less than  $\frac{1}{2}$  hr. the path falls into a new and well-maderoad, close to *Chiesa* (3,480'), the principal village of Val Malenco. [R.C.N.]

There are two Inns at Chiesa, neither of which can be called more than bearable. In both of them extortionate demands have been made upon passing travellers, and in some cases less than half the sum asked has been accepted. The *Osteria Antica* was improved, and not dear, in 1865. By the new road Sondrio (Rte. E) is reached in 3 hrs.; but as the ascent is continual, and the valley hot,  $3\frac{1}{2}$  hrs. should be allowed in going from Sondrio to Chiesa.

*Val Malenco* is extremely rich in rare minerals, and doubtless awaits further exploration to reveal many objects of interest to the naturalist.

## ROUTE H.

## PONTRESINA TO CHIESA IN VAL MALENCO, BY THE CAPÜTSCHIN AND SCERSCHEN PASSES.

In Rte. D was described a course by which an active mountaineer favoured

by weather may make the tour of the higher peaks of the Bernina in two days. The passes now to be noticed, combined with those described in the two following Rtes., enable a traveller to make a wider circuit in 3 or 3½ days, including far more varied scenery, and one decidedly difficult glacier pass. It appears certain that a pass from the head of the Fex Glacier to Val Malenco by the Scerscen Glacier has been known to the chamois-hunters of Sils by the name Capütscha Pass, taken from a rock called Capütscha on the S. side of the Fex Glacier, supposed to offer some resemblance to the better known Capütschin on the N. side of the same glacier. This pass is indicated on the Swiss Federal map; but the glaciers at the head of Val Malenco, on the S. side of the Bernina range, are not quite correctly given in that map.

Since the map was published, the guide Peter Jenni discovered a pass on the E. side of the Capütschin, leading from the Roseg Gl. to the upper plateau of the Fex Glacier, and reached Chiesa by crossing the ridge to the Scerscen Glacier. The first travellers who accomplished the new pass were Messrs. F. C. Grove and J. M. Wedgewood, in Sept. 1860, followed, a few days later, by Mr. A. Milman and his brother. The last-named gentleman has given an account of the pass in the Second Series of 'Peaks, Passes, and Glaciers.' The excursion has been since made several times, but must be reckoned as decidedly difficult, requiring thoroughly efficient guides (one for each traveller); and in a not unfrequent condition of the rocks, with a crust of ice covering their face, it can scarcely be effected from the Italian side. The charge for guides according to the Pontresina tariff is 25 fr. for going to Chiesa, and 16 fr. for the return, if the guide be dismissed there, or 19 fr. if he be taken back to Pontresina by the Canciano Pass (Rte. I). A porter engaged for the whole tour is entitled to 25 fr. Jenni and Fleuri, who are

the most competent men for this pass, refuse to carry any luggage, however trifling, on this expedition. It is doubtless now known to other guides.

The writer feels bound to adopt the name Capütschin Pass for that connecting the Roseg and Fex Glaciers. It appears to be known by no other name at Pontresina, and the name Roseg Pass, used by Messrs. Wedgewood and Milman, is open to the objection that another pass (the Sella Pass) lies between that now in question and the Piz Roseg, while the present pass is close to the Capütschin.

Most, if not all of the travellers who have taken this Rte., have thought it judicious to sleep on the preceding night at the clean and comfortable chalets of Misauna. The course lies along the centre of the Roseg Glacier until the slope becomes steep and the crevasses difficult, when the ascent is continued for some distance by the rocks on the W. bank. On returning to the upper level of the glacier, some steep slopes of névé have to be surmounted, and from 4½ to 5½ hrs. suffice to reach the summit of the *Capütschin Pass*, lying immediately E. of that summit, and about 500 ft. lower, so that the height may be reckoned 10,600 ft.

The view is described, by all who have reached this point, as of the grandest character, the Monte della Disgrazia being especially remarkable from this side. The descent from the upper ridge to the level of the Fex Glacier is the main difficulty of this route. The rocks are extremely steep and slippery, and have been frequently found coated with a thin covering of ice. Travellers are usually lowered with a rope about their waists, relying on the sure hold and steadiness of the guide, who gradually lets it out as they thus descend from one ledge to another. Towards the bottom the slope is less steep, but there are many loose stones that are set moving by the slightest touch. On reaching the Fex Glacier, it is necessary to turn to the l. and ascend to a second col—

the *Scerscen Pass*—which, to judge from descriptions, and the map annexed to Mr. Milman's paper, lies between the summits of La Sella and Piz Tremoggia. It is probably much higher than the pass SW. of the latter peak (Capütscha Pass?), marked on the Swiss Federal map—3,021 mètres=9,912 ft.

As mentioned in Rte. D, the Scerscen and Fellaria Glaciers are of a very peculiar character, perhaps deserving the name of ice-lakes rather than ice-streams. The Scerscen consists of two parallel ice-fields sloping gently towards the E., each sustained on the S. side by a high terrace of rock. The short ice-stream that carries off the overflow of these upper plateaux descends towards SW. to the neighbourhood of the Scerscen Alp. The torrent thence descends to SSE. through a branch of the Val Lanterna, which runs parallel to the middle portion of Val Malenco. Between them is a ridge whose most prominent summit is called Monte Nero. The usual way from the Scerscen Glacier to Chiesa is by this ridge, which lies considerably E. of the Scerscen Pass. The descent is long and rough, but nowhere difficult. Travellers have taken from 12 to 14 hrs., inclusive of halts, to reach Chiesa from the Misauna Alp.

In the first Jahrbuch of the Swiss Alpine Club, M. Weilenmann gives an interesting account of his ascent, without a guide, of *Piz Tremoggia* (11,326') from the head of Val Fex.

### ROUTE I.

#### CHIESA TO POSCHIAVO, BY THE PASSO DI CANCIANO.

9 hrs.' walking to Poschiavo. 9½ hrs. to Le Prese.

This is a very picturesque walk, passing through fine near scenery, and gaining several remarkable distant views.

Leaving Chiesa (3,480'), the path ascends in about ¼ hr. by the rt. bank of the Malero to the junction of the

Lanterna, where the Malero is crossed and the way lies through the *Val Lanterna*, keeping to the rt. bank, and passing through the village of *Lanzada* and the long straggling hamlet of *Vetto*. Then begins a steeper ascent on the N. side of the valley, avoiding the precipices which appear completely to close in its extremity. From Chiesa to the summit of these (5,400') is about 2¼ hrs. Hence there is a slight descent of ¼ hr. to the chalets of *Caral*, where the path crosses by a natural bridge over the western of three streams which unite at this point, descending from the glacier of Scerscen. From this point the path again ascends steeply to the little level plain of *Campo Moro*, about 1½ hr. farther, passing through fine woods and under lofty precipices. Here a distant, but fine, view is obtained of the *Monte della Disgrazia*. After crossing the *Campo Moro*, the ascent recommences on the rt. bank of the stream, but soon passes to the l. bank, and continues to ascend, with the exception of a short descent opposite the *Fellaria Glacier*, where there are fine views of the *Piz Bernina* and neighbouring peaks. Here the little *Val Poschiavina* opens to the ESE., and the stream is recrossed about 5½ hrs. from Chiesa. Notwithstanding its great elevation, the pastures of this upland valley are very productive, and a considerable group of chalets stands at its lower extremity (7,500'). From this point the ascent is comparatively slight. On approaching the upper end of the valley, a fine glacier comes into view, descending from the *Pizzo Scalino* (10,925') and *Pizzo Canciano* (10,194'). Here the path, which up to this point has been good and distinct, becomes obscure. It is necessary to keep near the rt. bank of the stream for nearly 1 hr. from the chalets; then turning to the l. (E.), the summit of the col is attained in about a ¼ hr. more. Its height is 8,366 ft. The views on both sides are fine, but the best are those of the *Bernina chain* to the W. The

ridge runs N. and S. It may be passed somewhat higher, a little farther N. than the lowest point, and nearer to the Colmo delle Ruzze, thus avoiding a slight détour. After passing the col, the traveller should keep to the N. till close under the Colmo delle Ruzze, to avoid the precipices immediately beneath him. The valley of Poschiavo appears but a short distance off, though in reality 5,000 ft. lower down. The descent, for about one-third of the distance, is easy and agreeable, for the most part over grass. The path keeps for  $\frac{1}{2}$  hr. to the l. of a stream which takes its rise from some little lakes just under the col, then bearing to the l., along the rt. bank of another stream which bursts out suddenly from the mountain side. It then falls into rough mule and sledge tracks, that continue until the high road is joined about ten minutes below Poschiavo. The descent takes from 2 to  $2\frac{1}{2}$  hrs. The ascent in the opposite direction about 4 hrs.

[R.C.N.] *Alsine recurva*, *Papaver pyrenaicum*, and the very rare *Carex hispidula*, have been found near the summit of the Canciano Pass.

A very rough path leads to Le Prese, but it saves little time. See Rte. K.

The Passo Rovano, mentioned in Rte. D, might enable an active mountaineer to reach Chiesa in one day from Pontresina. The path above described is joined at the point where the Val Poschiavina turns eastward out of the Val del Campo Moro. The *Pizzo di Verona* (11,358') was climbed in 1865 by Messrs. Tuckett, Freshfield, and Beachcroft, from the upper plateau of the Palü Glacier. They descended by the Gambré Alp, through Val Campo Moro to Val Lanterna. A cairn of unknown origin was found at the top. In the next summer Mr. Tuckett ascended the *Pizzo Scalino* (10,925'), which commands the finest view of the Bernina group from the S. side. It may be taken in the way from Poschiavo to Chiesa, ascending from the Canciano Pass, and descending along the W. arête to the chalets of Prabello, or *vice versâ*.

## ROUTE K.

### SAMADEN TO TIRANO, BY THE BERNINA PASS.

The only carriage-road connecting the valley of the Inn with that of the Adda is that over the Bernina Pass. The descent on the Italian side by the ancient mule-track was found to offer such difficulties for the construction of a carriage-road, that a new line diverging widely from the ancient course was selected. The original road was ill made and ill kept up, but it has been much improved of late years, and is now daily traversed by diligence in summer; the distance from Samaden to Tirano being accomplished in  $7\frac{1}{2}$  hrs.

#### 1. By the Carriage-road.

	Swiss leagues	Eng. miles
Pontresina . . . .	$1\frac{1}{2}$	$3\frac{1}{2}$
Bernina Inn . . . .	2	6
Poschiavo . . . .	5	15
Le Prese . . . .	1	3
Brusio . . . .	$1\frac{1}{2}$	$3\frac{1}{2}$
Tirano . . . .	$1\frac{1}{2}$	$4\frac{1}{2}$
	12	36

The road from Samaden to Pontresina is noticed in Rte. B. The high road to Val Tellina mounts from Pontresina by the rt. bank of the Flatzbach. On approaching the foot of the Morteratsch Glacier, where that torrent makes a fine waterfall, the new line of road mounts by zigzags to the l., commanding a much finer view of the glacier and the surrounding peaks than was gained by the old road. In  $\frac{3}{4}$  hr farther the traveller reaches the *Bernina Inn* (6,723'), offering accommodation and food much better than its appearance promises. The host speaks English perfectly. Half a mile above this the *Val del Fain* opens to the l. The botanist wishing to explore it thoroughly, should fix his quarters at the Bernina Inn. A little farther, another shorter glen—*Val Minor*—opens to the E., and on its S. side the *Piz Lagalp* (9,718'), easily climbed in 2 hrs. from the road, offers a very fine view of the Bernina Alps. Just opposite to the Val Minor the torrent from

the Diavolezza Lakes (Rte. B) crosses the road. A slight ascent now leads to the *Lago Nero* (7,284'). This small dark pool lies on the watershed between the Black Sea and the Adriatic; for while it sends its torrent to the Inn, it is separated only by a mound or dam of incoherent materials (moraine?) from the much larger *Lago Bianco* (7,316'), which feeds the Adda through the Poschiavino torrent. The white colour of the water, whence the latter takes its name, is given by the stream issuing from the Cambrena Glacier. The dam is in one place but 3 ft. above the ordinary level of the *Lago Bianco*; and when this is flooded by the rapid melting of the snows, the waters overflow the dam, and go to swell those of the *Lago Nero*.

The ground on the S. side of the *Lago Bianco* falls away so rapidly towards the valley of Poschiavo, that in constructing the carriage-road it was found expedient to carry it over higher ground to the E., in order to reach another branch of the Poschiavino which descends by a less steep declivity to the lower level of the valley. For this purpose the road bears eastward from the N. end of the *Lago Nero*, and gradually ascends a low ridge NE. of the *Lago Bianco*, whereon stands the Hospice, now converted into a very fair Inn, close to the

*Bernina Pass* (7,658'). Near at hand is a small lake, called *Lago della Crocetta*, one of the highest in the Alps that is inhabited by fish. Near its shores grow many rare plants, e.g., *Lychnis alpina*, *Potentilla frigida*, *Hieracium glaciale*, *Kalmia hirsuta*, and *Avena subspicata*. According to Leonhardi there were visible in this lake, at the close of the last century, the stumps of trees projecting above the water. Whether these may have been the remains of a forest that has disappeared, owing to a slight change of climate, or piles (*Pfahlbauten*) on which ancient lacustrine habitations had been erected, is a matter for curious enquiry. After passing the summit-level, reached in

1½ hr. from the Bernina Inn, the road is carried through a tunnel, and an artificial gallery intended to protect it against avalanches. There are here the remains of a silver mine, formerly worked in hornblende slate. Recent attempts to discover valuable ores have been unsuccessful. The very well-engineered road descends into a swampy upland glen, called *Val Agone*, connected at its upper end with *Val Livigno* by a low pass (Forcola), 7,638 ft. in height, by which a road might easily be carried to Zernetz. There was formerly an Inn at *La Motta* (6,509'), the first hamlet on the S. side of the pass, but it has been closed. There is now a rough inn, convenient for some excursions, at *La Ròsa*, lower by 400 ft. Following the stream from *Val Agone*, the road is now separated from the old mule-track by a high ridge, whose chief summit is *Pizzo Campaccio* (8,544'), sometimes ascended for the sake of the view. To the l. is seen the opening of *Val di Campo* (Rte. L), as the road descends in long zigzags which may be cut off by the pedestrian. A few houses, with the name *Le Rovine*, mark the site of a village destroyed by a berg fall in 1486. The first village, *Pisciadella*, stands near the torrent from *Val di Campo*. Corn-fields are seen here at the unusual height of 5,000 ft. After passing the torrent from *Val di Teo*, and some minor streams from other short lateral glens, the road reaches *San Carlo* (3,740'), where the Poschiavino torrent is formed by the junction of the stream that has accompanied the road, with the *Cavagliasco* descending from the *Lago Bianco*. Little more than 1 m. farther is

*Poschiavo* (Inns: Albergo Abrici, good, obliging landlord; Alb. Samadeni; Bernina, smaller), a village of moderate population, but having the air of a town, from the number of handsome houses and neighbouring villas. It is beautifully situated, at 3,317 ft. above the sea, and is the chief place in the Swiss valley of the same name which extends nearly to the

junction of the Poschiavino with the Adda. The most interesting excursion for the mountaineer is the ascent of the *Pizzo Sassalbo* (9,377'), a sharp, prominent peak, rising immediately E. of Poschiavo. Those who wish to reach the summit early may find quarters at the Alp of Sassiglione. The way is by the Passo di Sassiglione (Rte. E), on the S. side of the summit, and presents no difficulty to the mountaineer. A wider panorama, but perhaps not a more beautiful view, would doubtless be gained from the *Pizzo di Sena* (10,099'), the highest summit in the range E. of Poschiavo. The writer is not aware that this has yet been attained. The road from Poschiavo to Tirano has been much out of repair, but recent improvements have been made. About 3 m. of nearly level road lead to *Le Prese*, on the banks of the *Lago di Poschiavo*. A sulphureous spring discovered a few years ago, led to the construction of a handsome and comfortable house, with marble baths and a pretty garden. *Pension*, with wine, is 6 fr. per day. This place has many inducements for those who prefer a mild and rather soft climate to the more stimulating but colder air of the Engadine. The lake is 3,215 ft. above the sea, and the mean temperature in fine summer weather 68°—70° Fahr. The Baths are within reach of many mountain excursions, and the view to the N. includes the Piz Cambrena (11,835') and many minor peaks. The lake, about 2 m. long, produces excellent trout, and gives visitors the amusement of boating. *Arabis Halleri*, *Peucedanum rablense*, and some other interesting plants, are found here.

The high road is carried along the W. side of the lake, but soon after passing Meschino at its S. end, passes to the l. bank of the Poschiavino. On a high rock to the NW. is the pilgrimage church of St. Romerio (5,906'), worth a visit from Le Prese. Below the bridge the Poschiavino enters a narrow rocky defile, through which it rushes in a succession of rapids and

cascades towards its junction with the Adda. At *Brusio* (Inn: Post, fairly good and reasonable) the Protestant pastor is M. Leonhardi, whose little German works, containing descriptive and historical sketches of the Val Tellina, the Lake of Como, and the valley of Poschiavo, may interest the traveller. Tobacco is cultivated here, and smuggled on a large scale into Italy and Tyrol. There are several pretty waterfalls in this part of the valley, of which that of Sajento is seen on the rt. of the road.

The scenery of the lower part of the valley is very rich and beautiful, as the road, descending rather rapidly, passes Campaccio, and reaches the Swiss custom-house station at *Campocologno* (1,759'). The frontier lies a little farther S., at *Plattamala*, where the remains of an ancient fort attest the strategic importance of the position. It is true that no danger need be apprehended from their Swiss neighbours, but it is clear that here, as in too many other places, the Italians have allowed one of the keys of Italy to fall into the hands of the stranger. Travellers usually prefer to halt at La Madonna (Rte. E), but those who would pursue their journey towards Bormio will go into the town of *Tirano*, described in Rte. E.

2. *By Cuvaglia*.—There is no doubt that the most interesting way for a pedestrian going from Pontresina to Poschiavo is by the old mule-track, passing by Cuvaglia. The path turns aside from the high road at the N. end of the Lago Nero, and keeps to the W. side of that as well as the Lago Bianco, which latter is fully a mile long. The torrent falling from the *Cambrena Glacier* has no bridge, and during the warm hours of the day is somewhat difficult and disagreeable to cross. The pedestrian may make a slight détour, and avoid the difficulty by passing over the glacier. A very large *bloc perché*, a few feet above the lake, will attract the attention of the glacialist. A little below the Lago Bianco the tra-



veller passes another smaller lake, named *Lago della Scala*, so called from the very steep stair-like track that was once carried down the gorge below the lake. This course, in which fatal accidents from avalanches were of frequent occurrence, has been very long abandoned, and there are scarcely any remaining traces of the ancient pathway. The first improvement upon it was to carry a path farther W. by the Grüm Alp, where larches and pines begin to show themselves at about 6,700 ft., and near the Palü Alp (6,382'), the latter close to the foot of the beautiful Palü Glacier. It is worth while to make a slight détour by the foot of the glacier, but the ordinary path leaves the châteaux a little to the rt., and descends through charming scenery, amid rocks and pines, to the Alp of *Cavaglia* (5,581'), a green plateau surrounded by wood, and overhung by the Cornicella, a lower peak of the Pizzo di Verona. The scenery is, if possible, even more beautiful throughout the descent from Cavaglia. The Cavagliasco torrent which now unites the streams from the Lago Bianco and the Vedretta di Palü is followed through a romantic gorge as far as a bridge—Puntalta—where it has worn for itself a deep channel in the granite rocks, till it suddenly makes a terrific plunge and is lost to sight. The lower part of the gorge is impassable, and the path leaves it to the l. and descends along the slope of the mountain by Codera and Privilasco to Poschiavo. The walk from Pontresina to Poschiavo will be accomplished in about 6½ hrs, exclusive of halts, or even less by an active walker, but the way is throughout so beautiful that it is a pity to hurry over the ground.

It is possible to join the Cavaglia track from the Hospice on the summit of the Bernina by crossing a range of large stepping-stones over the shallows between the Lago Bianco and the L. della Scala.

## ROUTE L.

## PONTRESINA TO BORMIO.

The course from Pontresina to Bormio by the road of the Bernina, descending to Tirano, and then remounting along the stream of the Adda, is very circuitous. Those who wish to save time, or to vary the route, may select one or other of the passes here indicated. The first is the shortest, and by it an active pedestrian may reach Bormio in one long day's walk; or he may save labour by taking a char as far as La Rösa.

1. *By Val Viola.* In descending from the Bernina Pass to Poschiavo by the high road, the traveller leaves on his l. hand a lateral valley whose torrent is crossed by the road a short way above Pisciadello. This is the *Val di Campo*, which extends ENE. to a pass called *Passo di Val Viola*. On the opposite side the Val Viola descends in the same direction for 8 or 9 m., so that the pass, with the valleys on either side, marks a line of depression parallel to the main chain, enclosed between ridges whose height often exceeds 10,000 ft. The traveller descending by the road from the Bernina Pass should not follow this to the level of the torrent from Val di Campo, but may enter that valley much higher up by leaving the road at La Rösa, where the innkeeper will point out a path leading from the back of his house. In about 1½ hr. from La Rösa the traveller crosses a stream descending into Val di Campo from the NNW. This issues from a glen called *Val Mera*, at the head of which a high pass (8,776') leads into Val Livigno, passing on the W. side of the *Corno di Campo*, with three summits measuring in order from SW. to NE., 10,610, 10,843, and 10,814 ft., of which the highest was attained in 1866 by Messrs. H. Thomas, Lewin, and Finney, with Jenni and Fleuri as guides.

Above the junction of Val Mera the main branch of Val di Campo is often called Val Viola Poschiavina, to distinguish it from the Val Viola Bormina, through which lies the descent to Bormio. The scenery is throughout extremely fine, but the path is, or was, very rough, and in some places hard to trace amidst fallen rocks and trunks of pine-trees. The *Corno di Dosdè* (10,597') rises grandly, in an almost unbroken precipice, fully 2,600 ft. above the ridge which closes the head of the valley. To the rt., in a deep basin, surrounded by rocks and pines, is the beautiful little lake of *Saoseo* (7,037'), which must be drained by a subterranean outlet, as it is enclosed by a barrier of rock. On approaching the head of the valley, it appeared to the writer that there is no difficulty, except the roughness of the ground, to prevent a traveller from keeping straight on close under the grand peak of Dosdè; but the regular course is that indicated on the Swiss Federal map, following a streamlet due N. for a short way, and then turning E. to the *Passo di Val Viola* (about 7,900'). Near the summit the writer found the carcass of a cow recently killed, and partly devoured by a bear. The *Val Viola*, through which lies the descent to Bormio, is a long and rather an interesting valley, bare of trees, and defaced on the NW. side by slopes of débris. After descending for nearly 1 hr., the traveller stands opposite the opening of the *Val di Dosdè*. [This fine glen is enclosed between some of the highest summits of the secondary range dividing Val Viola from Val Tellina. On the E. side is the Pizzo di Dosdè, ascended in 1866 by Messrs. Freshfield and Walker. On the opposite side is the *Corno di Dosdè*, ascended a few days later by Messrs. Thomas, Lewin and Finney, from the head of Val di Campo. But it may be as easily reached from the Dosdè side, as they descended SW. from the summit to a point in the ridge (marked by a stone man) that forms a fine pass

between Val di Campo and Val di Dosdè. The last-named travellers also attained the second peak of the *Corno di Lago Spalmo*, seemingly the highest of this group. On its N. slopes an extensive glacier—*Vedretta di Dosdè*—closes the S. end of the glen.] Nearly 1 hr. below the opening of Val di Dosdè another lateral valley, called *Val di Verva*, opens on the S. side of Val Viola. At its head is a pass (see Rte. F) leading through Val Grosina to Grosotto in Val Tellina.

In descending the Val Viola to Bormio, on reaching the second chalets the traveller should choose the path to the rt., somewhat downhill, and in nearly 3 hrs. from the pass will join the track descending due E. from the Foscagno Pass (Rte. M) at the hamlet of Semogo. Below the junction of the streams the valley, which now bends to the E., is called *Val di Dentrò*, or Val Pedenosso. Its chief village is *Isoluccia*, on the l. bank of the torrent, scarcely  $\frac{1}{2}$  hr. below Semogo. A char-road is carried thence, first by the rt., then by the l. bank of the torrent, to *Premadio*, standing at the junction of Val di Dentrò with the valley of Bormio. To reach that town, the traveller bears to the rt. down the valley; but if he seeks the better accommodation of the Baths (§ 37, Rte. A), he will see the building before him on the slope above the opposite bank of the Adda. This route involves a long day's walk. The distance from Pontresina to La Rosa is counted 5 hrs.; but a pedestrian may do it in  $4\frac{1}{2}$  hrs. From that place to the Val Viola Pass is fully  $2\frac{1}{2}$  hrs., and  $4\frac{1}{2}$  hrs. must be allowed for the descent to Bormio. Travelling in the opposite direction, a horse might be taken from Bormio as far as the head of Val Viola.

2. *By Val Livigno.* A traveller who has reached St. Antonio in Val Livigno from Bormio, by either of the passes mentioned in the next Rte., by keeping to the main branch of that valley may join the Bernina road, and so proceed to Pontresina by either of two easy passes. Beyond the last chalets of

Val Livigno, a track ascends somewhat S. of E. along the torrent which is the principal source of the Spöl. At the point where the valley bends to the S., a rather rough ascent towards the E. leads to the *Pisso della Stretta* (8,143'), at the E. end of Val del Fain, through which there is a well-marked track to the Bernina road, entering it about 2 hrs. from Pontresina, and a little above the Bernina Inn (Rte. K).

By keeping along the track to the extreme head of Val Livigno, the traveller would reach the *Forcola* (7,638'), a pass mentioned in Rte. K. The track on the S. side from the Forcola would lead the traveller to Poschiavo through Val Agone; but a slight ascent to the SW. will take him on to a broken, irregular plateau, whereon lie several small tarns, whence he may descend to the Bernina road either by the N. or S. side of the Piz Lagalp. By the latter way he will soonest join the road on the N. side of the Lago Bianco.

### ROUTE M.

#### BORMIO TO THE ENGADINE, BY VAL LIVIGNO.

In Rte. A, reference was made to the considerable stream of the Spöl, which joins the Inn near Zernetz. This stream is made up by the union of torrents issuing from a number of tributary valleys, the most considerable of which is Val Livigno. This originates at the Forcola Pass, a short distance N. from the summit of the Bernina Pass, and follows a tolerably direct course to NNE. as far as the junction of the Val del Gallo, receiving on the way a torrent issuing from Val Federia on the l., and Val di Trepalle

on the rt. Between the junction of Val del Gallo and Zernetz, the Spöl pursues for many miles a sinuous course through an extremely wild defile, one of the most savage and impracticable in the Alps. While the access from Val Livigno to Zernetz thus becomes difficult and circuitous, the passes that connect it with the Engadine are higher and more difficult than those that lead to the valley of the Adda. It is doubtless owing to these peculiar geographical conditions that, by a solitary exception, the frontier of Italy here trespasses across the watershed, and annexes to the peninsula valleys whose waters flow towards the Black Sea. Everywhere else, in following the boundary between Italy and her neighbours, we find that it is they who encroach upon the limits that nature has set between them.

The easiest and most direct way from Bormio to Val Livigno is by the Val di Dentro. A track passable for country carts leads by Isolaccia and Semogo (Rte. L.) into the E. branch of the Val di Dentro, terminating in the *Foscagno Pass* (6,329'), probably the lowest, as it is certainly the most direct, between the Adda and the Inn. If general convenience and commercial advantages, and not political and strategic considerations, had directed the Austrian Government in the construction of a line of road between Innsbruck and Lombardy, this or the adjoining Val Fraële (§ 37. Rte. H) would have been selected. Some small pools lie at the summit of the Foscagno Pass; passing these, the char-road descends gently to the village of *Trepalle*, in the lateral valley or the same name, 3½ hrs. from Bormio. The traveller proceeding to Livigno does not descend the *Val de Trepalle* to its junction with the Spöl, but follows the track over a low hill lying in the fork between the valleys, taking 1 hr. to ascend, ½ hr. to descend into Val Livigno, and gaining an agreeable view.

*Val Livigno* is a sequestered and purely pastoral district, there being no tillage except a few patches of rye at the opening of *Val Federia*. The inhabitants, who have little intercourse with the outer world, have preserved their native habits and costume. There is, properly speaking, no village, but many houses are scattered at intervals through the valley, especially near to the churches. Following the above-mentioned track from *Trepalle*, the valley is entered near *Sant' Antonio* (6,145'), about 5 hrs. from *Bormio*. The only Inn in the valley lies somewhat to the l. It offers tolerable beds, but poor and scanty fare. The traveller bound for the Upper Engadine must bear a little to the rt., in order to enter *Val Federia*, whose torrent joins the *Spöl* about 1 m. below *St. Antonio*. The main branch of *Val Livigno* stretches SSW., with a gentle upward inclination towards the two passes mentioned in the last Rte.

Three courses are open to the traveller who would enter the Engadine from *Livigno*; the first and second lead to the Upper Engadine, the third to *Zernetz*.

1. *To Scanfs by the Casana Pass.* After entering *Val Federia*, the path along the torrent is followed for about 1 hr., and then a track mounting the ridge to the NW. by which, in 1½ hr. more, or three hrs. from *St. Antonio*, the traveller attains the summit of the *Casana Pass* (8,832'). It lies nearly due S of *Piz Casana* (10,079'). A rather steep descent leads into *Val Casana*, and in 1 hr. from the top he reaches the châteaux of the same name (7,310'), where milk, and sometimes bread, may be found. The track then lies by the rt. bank of the torrent, till this is crossed ½ hr. lower down. The path again crosses and recrosses the stream; but on approaching the junction of *Val Trupchum*, a wild glen whose head is enclosed by rugged peaks exceeding in height 10,000 ft., it keeps to the l. along the slope of the mountain, and finally bears about due

W. as it descends to *Scanfs* (Rte. A.), reached in 2½ hrs. from the pass, or 5½ from *St. Antonio*. Travelling in the opposite direction, 6 hrs. are required to reach *Livigno*. Less than ½ hr. beyond *Scanfs* is the better inn at *Zutz*.

2. *To Ponte by the Lavirum Pass.* It is a long day's walk to reach *Scanfs* from *Bormio* by the *Casana Pass*. The *Lavirum Pass* (9,249'), though higher, is easy, and *Ponte* is reached as soon as *Scanfs*. The pass is seen straight ahead from the lower part of *Val Federia*. Though the track is often lost, the way is easily found in clear weather. A deep gully is crossed before reaching the summit, a broad dreary plain nearly 1 m. across. The descent lies due W. through *Val Lavirum*, which joins the picturesque *Val Chiamuera* about 1¼ hr. above *Ponte*.

3. *To Zernetz.* The principal church of *Val Livigno* stands near the junction of the torrent from *Val di Trepalle* with the *Spöl*, about 2 m. from *St. Antonio*. Below the junction, the *Spöl* enters a wild and uninhabited gorge, which extends with little interruption to *Zernetz*, being probably the longest unbroken defile in the Alps. For nearly 2 hrs. the path is carried near the stream, crossing and recrossing it twice, till it reaches the junction of the torrent issuing from *Val del Gallo*. This forms the limit between the upper, or Italian portion of the valley of the *Spöl*, and the lower part, belonging to Switzerland. For about ½ hr. farther the path keeps to the rt. bank of the stream, but farther progress then becomes impossible, and in order to reach *Zernetz* a long détour is necessary. The path mounts to the rt. across the ridge dividing the *Ofen* torrent from the *Spöl*, and bears NE. to the *Ofen Wirthshaus*, on the road from *Munster* to *Zernetz* (§ 37, Rte. 1). 6½ hrs., exclusive of halts, are required to reach *Zernetz* from the Inn at *St. Antonio*.

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## SECTION 37.

## ORTELER DISTRICT.

WHILE the range of the Bernina Alps appears to dwindle to comparatively small dimensions as we trace it to the NE., and it is difficult to fix its limits in that direction, another group of high Alps rises between the head waters of the Adda and the valley of the Adige. This includes several projecting ridges or promontories, one of which, lying on the N. side, is crowned by the Ortelerspitze, the highest of the entire group.

Until very recently the orography of this group was very ill understood, and in the first edition of this work the writer was forced to rely upon rather vague conjecture in default of accurate knowledge. A paper by Mr. F. F. Tuckett in the 11th No. of the Alpine Guide, giving the results of an expedition made by him in 1864 with Messrs. E. and H. Buxton, with Christian Michel and Franz Biener as guides, first threw abundant light upon most of the questions previously involved in doubt. This was followed by several papers in the third annual volume of the Austrian Alpine Club, the most important of which were contributed by Dr. E. Von Mojsisovics. More recently Lieut. Julius Payer, previously known as the chief explorer of the Adamello range, has nearly completed the exploration of this district by expeditions among the Tsafoi Alps, described in 'Petermann's Mittheilungen,' and by subsequent excursions in the range of the Pallon della Mare.

The disposition of the mountain masses will be best understood by fixing attention in the first place on the *Monte Cevedale* (12,505'), improperly called on many maps *Zufall Spitze*, or *Zefall Spitze*. From this central point diverge in opposite directions, to the NE. and SW., two branches which orographically constitute a single range, tolerably uniform in geologic

structure, being formed of crystalline slates. The NE. portion of the range divides the Martellthal from the parallel valley of Ulten, and from the head of Val di Rabbi, the drainage on both sides being carried into the Adige. The SW. portion of the same range, on the contrary, separates the streams that fall into the Adda through Val Furva from those that feed the Adige through Val di Non. The chief summits in the NE. range, which from its highest peak may be called the *Zufrid* group, are the *Venezia*, or *Konzen-Spitze* (11,055'), the *Hintere Rothspitz* (10,344')—whence diverges the ridge dividing Val della Mare from Val di Rabbi—and the *Zufridspitz* (11,262'), whence another high range runs between Val di Rabbi and the Ultenthal. To the latter peak succeed a number of points that project but little from the general level till we reach the *Hasenohr*, or *Flatschberg* (10,673'). Beyond this extends the much lower range dividing Ulten from the Vintschgau, and terminating opposite Meran.

On the SW. of Monte Cevedale, the main range describes a long curve convex to SE., enclosing the great névé-basin drained by the Vedretta di Forno. Adopting Lt. Payer's nomenclature, and indicating in brackets Mr. Tuckett's names, the chief summits in this range, beginning at the NE. end, are—*Pallon della Mure* (12,038'), (*For-naccia*, T.), *Monte Vios* (11,902'), *Saline* (11,772'), *Pizzo Tavela* (11,472'), *Punta Cadini* (11,425'), *Giumella* (11,650'), and *Punta di San Matteo* (11,920') (*Palle della Mure*, T.). A ridge extending WNW. of the last terminates in the beautiful double peak of the *Tresero* (11,636', and 11,601'). The snowy range terminates towards the SW. in the *Corno dei Tre Signori* (10,912'). In a geological sense, this range, parallel to the course of the Inn, and to the valleys of Martell and Ulten, about 25 m. in length from the Corno dei Tre Signori to the Hasenohr, and continued for 12 or 13 m. towards Meran, must be considered the main

range: but it is much surpassed in height by the irregular mass lying W. of Monte Cevedale, that includes all the best known mountains of this region. Unlike the range first described, this consists in great part of secondary rocks, including soft friable slates, and highly crystalline dolomite, with some rocks referred to the verrucano. Although it throws out huge buttresses and promontories, the axis of this range keeps a tolerably uniform direction nearly due W. from Monte Cevedale. The first summit, insignificant in other directions, but very prominent when seen from Sulden, is the *Sulden Spitze* (11,109'). W. of which rises the noble *Königs Spitze* (12,646). This is known on the Italian side as Zebbru, but the same name has been given to the next summit, which, to avoid confusion, is now called *Kleiner Zebbru* (12,251'). W. of this extends the range which has been collectively called the Cristallo Group. But the confusion arising from the vague use of the name Monte Cristallo, makes it expedient to reserve that designation for the single peak ascended in 1864 by Mr. Tuckett and his companions. A broad snow col separates the *Kleiner Zebbru* from the *Thurwieser Sp.* (11,962'), to which succeed the *Trafoier Spitze* and *Ziegerpal-fen Sp.*, or *Schnee Glocke*, of Lt. Payer. The next prominent summit is the true *Monte Cristallo* (11,370'). Its western rival is the *Monte Video* (11,361'). From hence one ridge extends due W. between Val Furva and Val di Vitelli, while another, whose highest point is the *Nagler Spitze* (10,687'), runs WNW. towards the upper end of the Val di Braulio.

Scarcely less important than the principal range are the ridges that branch out from it in various directions. Separated from the *Königs Spitze* by a broad plateau of *névé*, is the considerable range (formed of crystalline slates?) extending parallel to the Martellthal. Its chief summits are the *Schöntauf Sp.* (10,893'), the four summits of the *Peder Spitzen*, of

which the highest attains 11,349 ft. and the *Laaser Sp.* (10,827'). A great offset, including the *Vertrain Sp.* (11,371'), the *Ofen Wand* (11,558'), and the *Angelus Sp.* (10,982'), encloses the head of the Laaserthal. On the S. side of the *Königs Sp.* a much less considerable ridge curves round to the W. between the two main branches of Val Furva. Its highest summit, *Monte Confinale* (11,076'), is destined to future celebrity as the *Gorner Grat* of this district. Most interesting to the mountaineer is the short ridge extending N. from the *Kleiner Zebbru*, and culminating in the *Orteler Spitze* (12,814'). This is a very bold promontory, connected with the vast snow-fields of the upper level of this group by a narrow crest covered with *névé*. Much less important is the short *Madatsch* ridge, projecting to the N. on the W. side of the *Madatsch Glacier*. Its southern and highest point, the *Madatsch Spitze*, measures 11,244 ft.

Besides the lofty ranges hitherto referred to, it has appeared necessary to include in this section many outlying ridges. Thus to the N. it comprehends the mountains lying in the angle formed between the Engadine and the road leading from Meran to the *Finstermünz*, and to the E. several valleys that descend towards the Adige. The geographical limits of the district are the Engadine to the N., the Adige to the E., the valley of Non and Sole to the S., with the pass leading from the latter to Val Furva, and the valleys connecting Bormio with Zernetz by the *Foscagno Pass* to the W.

The territory here included is divided between three States. The valleys drained into the Inn, with a trifling exception, and one of those near the head of the Adige, belong to Switzerland: to Italy are now united all the affluents of the Adda: but the larger part of this district lies within the Austrian dominions. On this account, the mountaineer wishing to explore the country should have his passport duly provided with an Austrian *visa*. The



Baths of Bormio afford good accommodation, but the lover of grand scenery will prefer the less luxurious quarters found at Sta. Catarina. There are many other places that may afford interesting occupation to the mountaineer. Of these Trafoi, on the Stelvio road, and Rabbi in a lateral valley of Val di Sole, deserve especial commendation. While within view of the numerous forts and blockhouses erected of late years by the Austrian Government in the valleys leading to the Adige, the traveller must carefully avoid sketching, or even making notes of any kind, on pain of disagreeable consequences.

The Valley of the Adige, forming the boundary of this district, is not described here. The German portion above Botzen is described in § 48.

### ROUTE A.

#### BORMIO TO MALS—PASS OF THE STELVIO—ASCENT OF THE ORTELEH-SPITZE.

	Italian miles	Eng. miles
Santa Maria . . . .	10½	11½
Trafoi . . . . .	7½	9
Prad . . . . .	7	8
Mals . . . . .	7½	8½
	<u>32½</u>	<u>37</u>

The magnificent road of the Stelvio, in many respects the most remarkable ever constructed, seemed to be doomed to ruin, after the separation of Lombardy from the Austrian monarchy, there being no adequate motive for incurring the heavy expenditure necessary to keep it up; but the communes on either side have contrived to maintain the road in tolerable order since 1859, and may be able to do so for some time longer. A small post omnibus runs daily in summer between Bormio and Eysers (§ 48, Rte. A). Voituriers commonly employ six days between Samaden or St. Moritz and Innsbruck,

sleeping at the following places on the road:—1. Poschiavo or Le Prese; 2. Bormio; 3. Trafoi; 4. Nauders; 5. Imst; 6. Innsbruck. It would be hard to name any other line of road, passable in a carriage, lying through such beautiful, grand, and varied scenery as this. The distances given above on the road between Bormio and Prad are believed to be correct, as measured along the carriage-road; but a pedestrian may shorten the way considerably, and the distance between Trafoi and the Baths of Bormio may be walked in 5½ hrs., exclusive of halts.

*Bormio*—Germ. *Worms*.—(Inn: Post, improved, recent reports favourable; several inferior houses), is a small but very ancient town, 4,016 ft. above the sea, frequently mentioned in mediæval history, both owing to its position as one of the keys of Northern Italy, and for the mineral springs near it, which appear to have been known in the time of Pliny. It stands close to the junction of the Frodolfo, issuing from Val Furva (Rte. B) with the Adda, which is formed a few miles N. of the town by the union of the torrent from Val Fraële (generally considered the main source of the river) with the Braulio, issuing from the ravine that leads to the Stelvio Pass. A fourth stream issues from the Val di Dentro, about 1½ m. above Bormio, and including the branch that drains Val Viola (§ 36, Rte. L), has the longest course of all those that unite in the basin of Bormio. Though situated in the near neighbourhood of grand scenery, the little town will not detain the traveller, who will prefer to fix his head-quarters at Sta. Catarina (Rte. B), or else at the *Baths of Bormio*. These are about 1½ m. N. of the town, on the slope of the mountain overlooking the Adda. The high road is carried up hill all the way to the New Baths. This is a large, handsome, and well-managed establishment, now much frequented by Italians during the summer, and sometimes over-crowded. The position is convenient for some excursions, but far inferior to Sta.

Catarina. Charge for a char to Tirano, 14 or 15 fr.

The waters of Bormio are said to be intermediate in character between those of Leuk and Pfäfers, and to be efficacious in some female diseases. A few hundred yards above the new establishment are the Bagni Vecchi (4,708'), now occupied by patients of the poorer class. In the gorge below the Baths, the united torrents from Val Fraële and Val di Braulio issue through a narrow cleft, forming a picturesque waterfall, enclosed between vertical rocks. Although the entrance is difficult, Val Fraële (Rte. K) is connected by easy and low passes both with the valley of the Inn and that of the Adige; and it is now questioned whether it would not be cheaper to construct a new road in that direction than to incur the cost of keeping up the existing line. At the Ponte del Piano, close to the junction of the two torrents, the road enters the Val di Braulio through one of the wildest and most savage defiles in the Alps. Excepting the Via Mala, there is none other so forbidding in aspect that has been pierced by a carriage-road. At the entrance of the first tunnel (Galleria dei Bagni), an inscription perpetuates the names of the two Italian engineers, Donegani and Masetti, who planned and directed its execution. Several other short tunnels follow in rapid succession, as the road ascends to the first refuge (Prima Cantoniera), 5,971 ft. above the sea. Here the narrowest and wildest part of the defile has been passed; but though the valley opens a little, nothing can be more stern than its aspect. Bare rocks and steep slopes of débris rise on either side, seeming to defy the boldness of those who first thought of making such ground passable for wheeled vehicles.

The Seconda Cantoniera, now in ruins, is 839 ft. higher, and about 2 m. beyond the first. As a protection against avalanches, the road is throughout a great part of the ascent covered by artificial stone galleries, preserving

the natural slope of the mountain, and allowing free passage to snow, ice, and rocks, that sweep the declivity. Beyond the second refuge a bridge called Ponte Alto crosses the torrent from Val di Vitelli.

After crossing the bridge, the road is carried in zigzags up a rocky slope known as Spondalunga, above which it crosses to the rt. bank of the Braulio torrent, and in 1 hr from the second refuge reaches the Terza Cantoniera (7,874'). Stunted plants of *Pinus mughus* are seen up to 7,600 ft. The steepest part of the ascent having been surmounted, the road enters the wild basin in which the Braulio torrent is formed by the melting of the snows on the adjoining heights. To the W. is *Monte Braulio* (9,790'), whose slopes produce many of the rarest alpine plants, amongst which may be noted *Ranunculus parnassifolius*, *Papaver pyrenaicum*, *Crepis pygmaea*, *Primula oenensis*, and *Aira subspicata*. A comparatively gentle ascent leads to the former post-house and Cantoniera di Sta. Maria (8,153'), with a large building containing the custom-house, and giving shelter to the men employed on the road. There is here a rough, but tolerable Inn, which may be serviceable to a mountaineer wishing to explore the Orteler group. The landlord, a very civil Italian, keeps a meteorological register, formerly furnished to him from Vienna. The inn here stands about 200 feet higher than the hospice of the Great St. Bernard, and this is by many degrees the highest permanently occupied hostelry in Europe. Close at hand is the ancient pass, known as the *Passo di Braulio*, or *Wormser Joch* (8,323'). A short way to the NW. is the summit of *Piz Umbrail* (9,954'), commanding a better view than Monte Braulio. The traveller should not fail to diverge a few yards from the road in order to gain the ridge whence a good track leads in 2½ hrs. down to Sta. Maria in the Münsterthal. That name is given (see Rte. H) to the upper part of the valley of the Rammach, which

belongs to Switzerland, while the lower portion, commencing 3 m. below Sta. Maria, is within the Tyrolese frontier. It appears that when the Austrian Government decided on the construction of the great road through Val Tellina, it was expected that the Swiss might be induced to cede the small corner of their territory required to carry the road down to Glurns in the Vintschgau, or to make a convention which would have given to the Austrians full control over the road. It was upon the failure of this design that the bold project of carrying the road over the still higher and much more difficult Stelvio Pass was formed and achieved.

On the Italian side the ascent is not very steep, but some zigzags may be cut off by the pedestrian, shortening the way (nearly 2 m. by the road) from the Cantoniera Sta. Maria to the *Stelvio Pass*—Germ. *Stilsferjoch*—9,213 ft. above the sea, and more than 1,500 ft. higher than any other pass traversed by a carriage-road. Here a scene of unexpected grandeur is suddenly opened. During the ascent, rock scenery of the sternest kind has exclusively prevailed, and though masses of ice are seen to impend over the stony barriers on the S. side of the road, they are no way conspicuous in the view. The traveller now finds himself on the verge of a steep declivity whose slope, covered with incoherent débris, and obviously the favourite track of avalanches from the adjoining heights, falls at a uniform angle towards a glacier that sweeps down from the rt. towards the valley below. The glacier is the *Madatschferner*, or Madatsch Glacier; the mountain on the opposite side is the *Madatsch*, and beyond it are the snow-fields above the Trafoi Glacier, culminating in the Orteler Spitze. The distant view is better seen from an eminence N. of the road (easily reached in 10 minutes), sometimes called Dreysprachen Spitze, because it is the corner-stone between the German valley of Trafoi, the Italian Val di Braulio, and the Swiss-Romantsch Münsterthal, or Val Mustair. From

the summit, where a deserted hut gives shelter to a watchman on the boundary between Italy and Austria, it is well worth while to reach the higher summit of the *Monte Pleassura* (9,941'), lying rather farther to NNE., and easily reached in 1 hr. from the pass. The *Öetzthal Alps* (§ 48) and some of the peaks of the Bernina are the most remarkable distant objects.

The descent of the slope on the W. side of the pass was one of the most arduous parts of the great work. The steepness of the mountain, and its exposure to avalanches, suggested no small amount of difficulty and danger. The road is carried along a sort of notch cut in the face of the mountain in a long succession of zigzags, while the requisite protection from avalanches is afforded by galleries of massive timber, with the roofs set so as to coincide with the natural slope, and to offer no projecting surface to resist the shock. These galleries are falling into a ruinous condition, and it has been found necessary to remove several of them. Out of forty-eight zigzags on this side of the pass, the majority are between the summit and *Franzenshöhe*, formerly a post station and barrack, now open as an inn from 1st June to 15th Oct., about 7,200 ft. above the sea. The view from thence is very beautiful, and may content those who approach the pass from the side of the Vintschgau without intending to cross into Italy. Besides the Madatsch Glacier and the peaks beyond it, the traveller now looks down into the Trafoithal, which is scarcely seen from above, as it bends to the NE., while the course hitherto followed has been nearly due E. The sight of the pine forests that clothe the slopes of that beautiful valley is refreshing to the eye, that has scarcely rested on a tree since leaving the Baths of Bormio. In 2 hrs. from the summit the pedestrian, availing himself of short cuts, very easily reaches

*Trafoi* (5,079') (Inn : Post, good, simple, kept by Frau Barbara Orteler, a new house is probably now finished),

very beautifully situated opposite the opening of a short glen, through which descends the torrent from the Trafoi Glacier. Those who attempt nothing more ambitious should make a short excursion to the foot of that glacier, offering, in exquisite combination, all the elements of grandeur and beauty. The way to it follows the l. bank, and crosses the torrent from the Madatsch and Trafoi Glaciers, and then reaches the Heiligen drey Brunnen, a sort of mountain sanctuary, where three little fountains of exquisitely pure and cold water are made to issue from three rudely-carved wooden figures. From the dark face of the Madatsch three copious torrents issue from cavities in the limestone, and either from these, or the minor sources consecrated by religious feeling, it is supposed that Trafoi (*tres fontes?*) takes its name. The geologist will remark the contrast between the black limestone of which the Orteler Spitze, the Madatsch, and the neighbouring ridges are composed, and the talcose and other crystalline slates of the mountains N. of the Stelvio Pass. About  $2\frac{1}{2}$  m. below Trafoi is Gomagoi (3,901'), with a small and poor inn, at the junction of the Suldenthal (Rte. D) with the Trafoithal. An interesting excursion may be made to the Sulden Glacier, reached in 4 or  $4\frac{1}{2}$  hrs. from Gomagoi. Below the latter village the mountains on both sides are composed of mica-schist. After passing a smelting house and leaving *Stilfs* on the slope of the mountain to the l., the road reaches *Prad*, the chief village of the valley, with two country inns. This is very near to the lower end of the Trafoi—or, as it is also called, *Stilfs-er-thal*. In about  $1\frac{1}{4}$  m. from Prad the road reaches a bridge over the Adige, and joins the great road of the Vintschgau at *Spondinig*. Here the traveller bound for the Northern Tyrol turns to the l., and soon reaches *Mals* (Inns: Post; Hirsch). Those going to Meran and Botzen will turn to the rt., pass *Eyers*, and descend the Adige to Laas (§ 48).

*Ascent of the Orteler Spitze.* This

noble peak, whose relations to the neighbouring ranges have been noticed in the introduction to this section, has of late been ascended by many German and English mountaineers. The old route for the ascent lay mainly along the rocky ridge descending NW. from the summit to the Heiligen drey Brunnen. That ridge bounds on the NE. side the double ice stream, which is commonly spoken of as the Trafoi Glacier. This, in truth, includes two separate glaciers, divided by a very steep rocky ridge called *Ziegerpalfen*. The *Unter Trafoiferner*, which has been also called Orteler Gletscher, is that nearer to the Orteler Sp., drains the larger snow-basin, and descends lower (to about 5,400'). The *Ober Trafoiferner* falls between the Ziegerpalfen and the Madatsch ridge, which divides it from the Madatschferner. In ascending by the old route it was usual to bivouac at an abandoned hut in a hollow above the Drey Brunnen, and to effect the steepest part of the climb by an ice-couloir, called the Pleis, which involved much step-cutting, and some risk from falling ice and rocks. On the N. side of the ridge that bounds the Pleis is a glen or depression, called *Tabarettathal*, closed at its upper end by the small Tabaretta Glacier that falls westward from the N. ridge of the Orteler Spitze. By this glen, partly by the moraine on the rt. bank, and partly by the Tabaretta Gl., Messrs. Tuckett, and E. and H. Buxton, with Christian Michel and Franz Biener, struck out a new route in 1864. On approaching the summit of the ridge dividing them from Sulden they turned to the rt., and ascended the rather steep but not difficult slopes of névé that cover the NW. face of the mountain. As in the old route, the highest ridge must be struck some way SW. of the highest point, which is a very sharp ridge (likened by Mr. Tuckett to the keel of a boat), in some places almost overhanging the head of the Sulden Glacier. The objection to this new route lies in the risk of ice-

avalanches from the upper part of the mountain, which fall pretty frequently on the Tabaretta Glacier. This may be avoided altogether by ascending to the N. ridge of the mountain through a hollow immediately above Trafoi, parallel to, but N. of the Tabarettathal. 'It is proposed to build a stone hut on the W. slope of the Tabaretta Spitze to facilitate the ascent.'—[E. M.]

The earliest ascent of the Orteler Sp. was made from the Suldenenthal, but the ancient course has become impracticable. This lay along the E. ridge descending from the peak between the head of the Sulden Gl. and the true *Orteler Glacier*, not to be confounded with the Unter Trafoi Glacier on the opposite side of the mountain. Dr. E. von Mojsisovics, who also ascended by Mr. Tuckett's route, has effected the ascent from Sulden by the Marleck, a ridge projecting eastward from the Tabaretta Spitze, and by a couloir locally called *Durchfabrt*. This route joins that of Mr. Tuckett on the ice-slopes above the Tabaretta Glacier. It appears to be shorter by 1 hr., and free from the risk of avalanches. The best local guides for the Orteler Sp. are Johann Thöni, J. Pinggera of Sulden, and J. Mortzug. Anton Ortler is not recommended. No one of these is very good upon ice, and they require to be kept in order as to the use of the rope.

'Moderate walkers who do not attempt the ascent of the Orteler may gain an admirable view of the mountain from the summit of the Kerspitz (9,604'), rising W. of Trafoi, and easily reached from thence in 4 hrs. There is a good path nearly to the top.'

Mr. J. Warner recommends in preference the view from *Piz Münschuns* (9,751'), lying in the same range. The highest point is apparently *Piz Costainas* (9,865'), which seems to be also accessible without difficulty.

## ROUTE B.

BORMIO TO TRENTO, BY VAL FURVA  
AND VAL DI SOLE.

	Hrs. walking	Eng. miles
Santa Catarina . . . .	2½	7½
Pejo . . . . .	7	15
Fusine . . . . .	2	6
Malè . . . . .	3	9
Cies . . . . .	3	9
San Michele . . . . .	4½	13½
Trento . . . . .	3½	10½
	25½	70½

Char-road from Bormio to Sta. Catarina—  
On foot from thence to Pelizzano—Carriage-  
road from Pelizzano to San Michele—Railway  
from thence to Trento. The distances set down  
above are only approximate.

There are not many routes through the Alps that offer a greater variety of grand and beautiful scenery than that here indicated, especially if the traveller will give himself time to explore the neighbourhood of Sta. Catarina and Pejo, and to make a slight détour to the Baths of Rabbi (Rte F). The walk from Sta. Catarina to Pejo involves the passage of a high and rough ridge, free from difficulty to the mountaineer, but somewhat too laborious for ladies. They may reach the Val di Sole from Sta. Catarina by a less difficult though longer way, descending from the Gavia Pass to Ponte di Legno, and then following the Tonale road to Pelizzano; or the whole tour may be made in a carriage, by returning from Sta. Catarina to Bormio, descending the Val Tellina to Tresenda (§ 36, Rte. E), traversing the Aprica Pass to Edolo (§ 39, Rte. E), and following the main road of the Tonale (§ 39, Rte. A) to Pelizzano.

As mentioned in Rte. A, the *Frodolfo* torrent issues from *Val Furva* close to Bormio. A tolerable char-road is carried along the rt. bank, reaching in ½ hr. *S. Nicolo*, the principal village of the valley. At *S. Gottardo*, about ¼ hr. farther, the *Val di Zebbru*, descending from the E. joins the main branch of *Val Furva*, which here turns SE. The beautiful pyramidal peak of the *Treseo*, which was

in view in the lower part of the valley, is now concealed. Except for the botanist, who may gather by the wayside *Hieracium glaucum*, *Echinosperrum deflexum*, and *Woodsia hyperborea*, there is little to attract attention, as the road ascends gradually along the rt. bank of the torrent, until in about 2½ hrs. from Bormio the traveller approaches

*Santa Catarina.* This place consists of a chapel and four or five houses on the rt. bank of the Frodolfo, and a large building on the opposite bank, occupied in summer by visitors who come to drink the water of a strong chalybeate spring that issues near at hand. Being highly charged with carbonic acid, these waters are agreeable to the taste when mixed with wine, and are bottled and largely consumed in the N. of Italy. From the mean of 14 observations taken by the writer, the Stabilimento stands 5,720 ft. above the sea. The position of this place, in the centre of a semicircle of snowy peaks that extend fully 25 m. from the Stelvio road to the Tonale Pass, is most attractive to the mountaineer, and the scenery, in the writer's opinion, decidedly superior to that of any place in the Engadine. The accommodation is rather rough, the food good, and the charges reasonable; but the house is not as clean as it ought to be. The best guides in the valley are Pietro Compagnoni and Ignazio Antonioletti. The first is a steady and safe man.

The pine forests here are much finer than those of the Upper Engadine; and these, as well as the higher ridges, offer many rare plants, such as *Hutchinsia brevicaulis*, *Dianthus glacialis*, *Cherleria imbricata*, *Linnaea borealis*, *Willemetia apargioides*, *Primula glutinosa*, *Kaleria hirsuta*, and *Sesleria tenella*.

A level plain extends for ¾ m. above Sta. Catarina, and here the Val Furva comes to an end, at the base of the beautiful *Monte Tresero* (11,636'), also called Piz Alto, not to be confounded with the Corno dei Tre Signori men-

tioned below, though the derivation is the same. The Tresero is, in truth, merely the gable end of a sharp snow-ridge projecting WNW. from the *Punta di San Matteo* (11,920'), which crowns the watershed between the Frodolfo and the Nos. Of the two torrents meeting above Sta. Catarina, the most considerable flows from the NE. branch, or Val Forno (Rte. C); the lesser stream issues from Val Gavia, which opens due S. at a high level above the mineral spring.

Sta. Catarina is the Zermatt of the Rhætian Alps. In the centre of a great girdle of snowy peaks it beholds but one of the higher summits; and though the Tresero recalls the form of the Weisshorn rather than that of the Matterhorn, and the Forno Glacier is not comparable in dimensions to that of Gorner, the relative positions are much the same. As the Gorner Grat affords the grandest panorama near Zermatt, so here the *Monte Confinale* (11,076'), the highest part of the ridge dividing Val Furva from Val di Zebbru, commands a view that must be more and more famous as it becomes generally known. All the highest peaks of this district, mentioned in the introduction to this section, are seen ranged round the spectator—the Orteler Sp. rising far above the col between the Kleiner Zebbru and the Thurwieser Spitze and the deep rugged trench of Val di Zebbru lying between the eye and the high range beyond it, vastly enhances the effect. Of more distant peaks, the Pressanella, seen to the rt. of the Tresero, the Monte della Disgrazia, the Bernina group, and the Piz Linard, are the most remarkable. The way to the Confinale is nearly straight through an upland hollow, whose streamlet falls just opposite to the Stabilimento. At its upper end a ridge of shattered rocks is seen supporting a small snow-covered glacier that mantles the broad shoulder of the mountain. The more direct way involves some scrambling amid huge loose

blocks, but the glacier is thus reached where it seemed safe and unbroken. It is rather easier to bear to the l., and keep along the ridge so as to avoid the glacier. Practised mountaineers will not require a guide, but do wisely to take a rope. The height above the valley being about 5350 ft., moderate walkers will take 4 to 4½ hrs., including halts. The descent is easily made in 2½ hrs. The way is too rough for most ladies.

Several other excursions from Sta. Catarina are incidentally noticed in this and the following Rtes. No visitor should omit a visit to the Forno Glacier (Rte. C), a very beautiful and easy excursion, quite fit for ladies.

Several passes are now known across the high range enclosing the Forno Glacier. The most direct way to Pejo is probably the *Passo di Vios* (about 10,868'), traversed by Mr. Tuckett, in 1866. It is a slight depression between the *Monte Vios* and the *Saline* (11,772'), which latter point, reached in 1 hr. from the pass, commands a magnificent view. In mid-June the Vios Glacier presented no difficulty. Later in the season Mr. Tuckett recommends travellers to keep to the SW. side. Time from 8 to 9 hrs., excluding halts. Mr. Tuckett has described another pass, named by him *Passo del Forno* (11,041')—*Passo della Vedretta Rossa* of Payer—of which the following is an abridged account:—The ascent offers no difficulty whatever, and except for the first ¼ hr., the eastern side is also perfectly easy. Sta. Catarina to foot of Vedretta di Forno, 1½ hr.; thence to right (N.) lateral moraine at the foot of the ice-fall, 1 hr.; along moraine, ¼ hr.; up slopes of rock and turf to rt. lateral moraine of a glacier descending from S. side of the Fornaccia, 1 hr.; and thence to summit of the pass, 1½ hr. Total ascent, 5 hrs. Bearing to the l. during the descent of the *Vedretta Rossa*, and keeping somewhat N. of the centre, the ice was finally quitted for the l. lateral moraine in 1 hr.; the highest malga in the Val della Mare reached in 1¼ hr.; Pejo in 2¼ hrs.; and the Bagni in ½ hr. more. Total descent, 4¾ hrs.

Quite equally interesting is Lt. Payer's pass—*Col degli Orsi* (10,847')—lying between the Giumella and Punta Cadini, about the southernmost point in the range enclosing the Forno Glacier. The descent lies by the l. bank of a small glacier at the head of *Val degli Orsi*, which joins Val Bormina less than 1 hr. above the mineral spring at Pejo.

There is no doubt that a pass may be effected, more direct, but probably longer than the Sforzellina Pass, leading to Pejo across the ridge enclosing the Gavia Glacier, but no particulars respecting it have reached the Editor. This proposed pass might be taken in connection with the most attractive excursion from Sta. Catarina—the ascent of *Monte Tresero*, or that of the still higher *Punta di San Matteo*. Neither can be reckoned as a difficult peak for travellers accompanied by a guide well used to ice-work. Both were first ascended in 1865, on the same day, by Messrs. Tuckett, Freshfield, and Fox, with François Devouassoud and Peter Michel. Turning to the l. from the Senter di Tresero, leading to the Gavia Pass (§ 39, Rte. F), they struck up the slopes to the l. before reaching the Ponte di Preda (see below), and gained the rt. moraine of the *Gavia Glacier* in 2¼ hrs. from Sta. Catarina. Following at first the centre of the ice-stream, then keeping to the rt. to avoid the most broken part of the ice-fall, they traversed the séracs, and attained the NE. corner of the upper plateau of névé. To avoid a furious wind, they diverged a little from the direct course, crossed the ridge connecting the P. di S. Matteo with the Corno dei Tre Signori, and reached the former peak from the S. side in 5¼ hrs.' actual walking. Favoured by weather, the view was of marvellous extent, comprising the Alpine chain from Monte Viso to the Gross Glockner. Returning by the same course to the head of the Gavia Glacier, and crossing a snowy ridge that projects from the inner, or SE. peak of the Tresero, the NW. peak was gained in 1¼ hr. more.

This, which is the only summit visible from Sta. Catarina, surpasses its rival by 35 ft. It commands a horizon rather less extensive than the P. della Mare, but has the advantage of looking down directly into the Val Furva and the valley of Bormio. In subsequent ascents of the Tresero a more direct course has been taken, chiefly along the ridge forming the N. boundary of the Gavia Glacier.

The ordinary way to Pejo, which is, however, very little used, is by the *Passo di Sforzellina* (9,950'), reached by the more frequented of the two paths leading to the Gavia Pass, which is further noticed in § 39., Rte. F. In its northward course from the head of Val Gavia to join Val Furva, the torrent has cut an extremely deep and quite impassable ravine, so that those who would gain the upper level of Val Gavia must take a course at some distance from the stream. This is easily passed only at one point, about 500 ft. above the level of Val Furva, where a bridge called Ponte della Vacca serves the herdsmen who dwell in summer on the opposite slopes. To reach this from Sta. Catarina, the track ascends the hill-side S. of the Stabilimento, then bears to the l. nearly at a level, till it is necessary to descend somewhat to cross the Gavia torrent by the above-mentioned bridge. To this succeeds a long and steep slope where the track mounts by zigzags, till, in about 1½ hr. from Sta. Catarina, the traveller attains the level of the Val di Gavia. This broad trough, with a nearly level floor subsiding gradually from its upper end, where its height is about 8,600 ft., to the edge of the slopes overlooking Val Furva (about 7,600'), divides the Tresero range from the range of *Monte Sobretta* (about 11,000') forming the S. boundary of Val Furva. When once the upper level has been attained, the path mounts very gradually, at first along the base of a rocky ridge extending from the Tresero. Through an opening in this ridge the Gavia Glacier protrudes its icy tongue close to the track, which here crosses the gla-

cier torrent by the Ponte di Preda. After passing the bridge the traveller may begin gradually to ascend diagonally above the level of Val di Gavia till he reaches the névé of a small glacier that covers the ridge on the N. side of the *Corno dei Tre Signori* (10,910').

The beautiful *Primula glutinosa*, one of the greatest ornaments of this region, is very abundant throughout the ascent to the pass, which is reached in 3½ hrs. from Sta. Catarina. The view is limited, but may be extended by climbing a sharp tooth of rock N. of the pass. A rather steep descent, for a short way along the moraine of a small glacier of the Corno dei Tre Signori, leads down to the level of *Val Bormina*. The way lies along stony slopes left of the torrent, gradually rising a little above its level, till the traveller descends to cross a foot-bridge just above the junction of Val Piana, a wild glen originating under the crags of the Giumella. The track, now well traced, keeps to the rt. bank as far as the Malga di Palu, standing at the junction of Val Bormina with a short glen running up to the Passo di Montozzo (§ 39, Rte. F), which leads to Ponte di Legna. The path returns to the l. bank in descending the valley—now called *Val del Monte*—passes by the way a newly discovered mineral spring, and, in 7 hrs.' steady walking from Santa Catarina, reaches *Pejo*. The so-called Fonte di Pejo is a pleasant chalybeate spring on the rt. bank of the torrent, which attracts many visitors to a rough inn, open only during the short season of less than 3 months. When it is full, those who seek night-quarters must ascend at least 20 min. to the village of Pejo, standing on the steep slope above the l. bank, where there is a very poor inn.

A rapid descent leads in less than ½ hr. to *Cogolo*, a village on the l. bank of the torrent, henceforward called *Nos*, at the junction of the *Val della Maria* (Rte. F). Here lives Domenico Veneri, the best guide hereabouts. An easy and agreeable path leads from Cogolo



along the valley, called *Val di Pejo*, as far as Fusine.

In about 2 hrs. from Pejo the traveller reaches Fusine, a small place at the opening of Val Vermiglio, through which descends the new road of the Tonale (§ 39, Rte. A), one of the many by which the Austrian Government sought to bind the Lombard provinces to the Empire. On reaching that road the traveller is but twenty minutes from *Pelizzano*, where there is a tolerable inn. The valley of the Nos now assumes the name *Val di Sole*, or *Sulzberg*, which is often given collectively to the main valley and its tributaries down to the point where it turns abruptly to the S. and obtains the name *Val di Non*. It is usually possible to hire a char at *Pelizzano*; but otherwise it is necessary to walk as far as *Malè*, a distance of fully 9 m. Below *Pelizzano* the *Nos*, or *Noce*, torrent, now swollen by many tributary streams, follows a course at first a little N. of E., and after passing *Dimaro* its course is due ENE. The peaks of the *Tresero* range are here completely shut out, and the scenery, though pleasing, is not very striking. Occasional glimpses of the range of the *Presanella* and *Piscanno* (§ 40) are gained, but the highest mountains rarely come into view from the main valley. This is somewhat contracted, leaving little space for cultivation; yet several villages follow in rapid succession. The chief of those on the rt. bank of the *Nos* is *Dimaro* (with a decent country inn), at the confluence of the *Meledro*, issuing from the picturesque *Val Selva*, through which lies the only easy way from the N. into *Val Rendena*. A very fair-looking inn is passed 2 m. farther, about 10 min. before reaching the principal place of *Val di Sole*—

*Malè* (Inn: *Corona*, very fair accommodation, but notorious for extortionate charges), a thriving village (about 2,530'), on the N. side of the *Nos*, close to the junction of the *Rabies* torrent issuing from *Val di Rabbi* (Rte. F). A slow country diligence

plies daily to the rly. station at *San Michele*, with a long halt at *Cles* in ascending the valley. Below *Malè* the road to *Cles*, which has been improved, keeps to the l. bank till the *Nos* falls through a deep ravine, and at the same time is bent to the rt. so rapidly that its course from ENE. is soon turned about due S. The road descends to a bridge, and then winds along the steep slopes above the rt. bank, passing the chapel at *St. Chiatar*, which commands a beautiful view. Here the traveller enters the fertile district called *Val di Non*, or *Nonsberg*, which includes not only the lower valley of the *Nos*, but also the tributary branches noticed in Rte. I. On high ground some way from the stream stands

*Cles* (Inns: *Aquila*; *Corona*), a small town of great antiquity, as is proved by Roman coins of the Republic, and many of later date. The church which has given the place its name (*Ecclesia*) stands on the site of a temple of *Saturn*. The neighbourhood is rich rather than picturesque, producing much wine and silk. For some distance the road traverses an undulating hilly tract W. of the *Nos*; but farther on the scenery becomes much more interesting, as the road descends through the narrow valley which is ultimately contracted to the defile of *Rochetta*. Several castles are seen during the descent to *San Michele*, of which the largest belongs to *Count Thun*. The *Rochetta*, through which lies the only carriage-road between the head of *Val Camonica* and the *Adige*, has been fortified by the Austrians within the last few years. The scenery of the defile is very striking, and the road finally emerges from it in one of the finest parts of the valley of the *Adige*. There is a road on both banks of the *Nos* leading down to the *Adige*. The better way, that taken by the diligence, keeps to the rt. bank through *Mezzo Lombardo*—Germ. *Welsch Metz*—(Inn: *Corona*, very fair). Pedestrians bound for *San Michele* should prefer the old road on the oppo-

site bank, traversing *Mezzo Tedesco*, or *Deutsch Metz*. These names, and other similar designations in the valley, refer to the ancient distribution of the population along the frontier dividing the German and Italian races. In modern times the Italians have in some measure driven back the tide of northern immigration, and the *Welsch*, or Italian tongue, prevails almost exclusively as far as Botzen.

At the station of San Michele, rather more than 10 m. from Trento, the traveller joins the rly. from Botzen to Verona, described in § 57.

### ROUTE C.

#### SANTA CATARINA TO LATSCH, BY THE PASSO CEVEDALE.

The way from Sta. Catarina to the German Tyrol through the Martellthal is extremely interesting, and not at all difficult with a good guide. It is, however, quite possible to miss the true way for the descent from the pass on the E. side, and on this account it is more advisable, when practicable, to take it from the E. side than from Sta. Catarina.

The way from that place to the Cevedale Pass is through the beautiful *Val Forno*, a short glen through which the stream from the Forno Glacier descends to join the Gavia torrent, and form the Frodolfo. A frequented

cattle-track on the rt. bank of the stream leads from the bridge at Santa Catarina, commanding exquisite views of the Tressero, on whose steep NW. flank the *Chiarena Glacier* is seen suspended. In about  $1\frac{1}{2}$  hr. the track reaches a rocky knoll rounded by the former passage of the glacier, but now forming the barrier which arrests the progress of the *Vedretta di Forno*, the most extensive glacier of this district. Its basin is enclosed by the high peaks enumerated in the introduction to this §, the highest of which is the round-topped *Pallon della Mare*, conspicuous from Sta. Catarina. These summits describe a concave arc whose chord is about 5 m. in length.

The way to the Martellthal turns away from the Forno Glacier, and mounts the green slopes above its rt. bank, whereon stand numerous chalets, and some rather solid and comfortable houses, inhabited in summer by herdsmen and their families. At the top of these slopes an upland glen, called *Val Cede*, opens out somewhat E. of N. Through this lies the way to the pass. It offers little interest until the noble *Königs Spitze*, and the ridge connecting it with the *Monte Cevedale*, comes into view. The notch in the ridge descending from the former peak, called by Mr. Tuckett *Königs Joch*, will also be observed. Following a sheep-track at some height above the l. bank of the stream, the l. moraine of the *Cede* Glacier is struck in 1 hr. from the upper chalet, or 3 hrs. from Sta. Catarina. For  $\frac{1}{2}$  hr. the glacier is traversed, and then an ascent of 1 hr. more over steep slopes of rock and débris leads to the summit of the *Passo Cevedale*, called in the Martellthal *Langenferner Joch* (10,765' E. M.). This lies between the *Königs Spitze* and *Monte Cevedale*, but nearer to the latter. By bearing to the l. over the plateau of névé forming the summit of the pass, but keeping a little to the rt. of the *Sulden Spitze*, here showing as a low cone projecting from the snow-field, the traveller will strike the ridge called by

M. von Mojsisovics *Janiger Scharte*, which separates the névé of the Langenferner from that of the Sulden Glacier, over which lies the descent to Sulden. This passage is about 220 ft. lower than the Passo Cevedale.]

The *Langenferner*, over which the traveller must find his way to the Martellthal, is far more extensive than the Cedeh Glacier, and is in many places broken up into huge séracs. In attempting the descent in 1864, from the Italian side, M. von Mojsisovics encountered serious difficulties; but on returning a few days later, under the skilful guidance of Janiger, he effected the ascent without finding any serious obstacle in the way.

The scenery at the head of the Martellthal is of the grandest character. The main ice-stream of the Langenferner receives a considerable affluent from the SW., called Fürkeferner, descending from the Monte Cevedale, here called Fürkele. A short way farther down, the *Hohenferner* descends in a great ice-fall from the S. The pass leading over it into Val della Mare is noticed in Rte. F. Farther down on the S. side of the valley several other glaciers—the Ultnermarkferner, Gramsenferner and Zufriedferner—come in succession into view, but do not reach the level of the valley. The upper end of the valley is locally known as Ceval, and the name Ceval Spitze is given by the herdsmen, somewhat at random, to one or other of the summits visible from below. Hence have originated the names Zefall Sp., and Zufall Sp., appearing on most maps, but tending only to perpetuate confusion. Several hütten, or châtelets, are here occupied in summer. The path keeps mostly to the l. bank of the *Plima*, as the main torrent is called, passes a chapel called *Maria Schmelz* (5,125'), and in about 2½ hrs. from the foot of the glacier reaches the first permanent dwellings. In the first house dwells Sebastian Janiger, a well known chamois hunter, the best guide in this district. He is an excellent ice-man, but not suffi-

ciently sensible of the advantages of the rope and ice axe, and is apt to lose precious time in the earlier part of a day's walk.

Of the numerous lateral glens passed in the way, the most important is that of the *Soybach*, a savage ravine opening on the SE. side of the valley. Two passes lead that way to St. Gertrud at the head of the Ultenthal (Rte. G). Both are said to lie in the midst of very striking scenery. If the traveller has not lost time in descending the Langenferner, he will in 9½ hrs. steady walking from Sta. Catarina reach *Gould* (4,042'), the highest hamlet in the valley. About 1 m. lower, and on the l. bank of the *Plima*, is the principal church, with an inn of the poorest class beside it, and a group of houses called *Thal*. The traveller need not here cross the stream, as there is a good path on the rt. bank that will lead him in 1 hr. from Gond to the mineral spring called *Salt* (3,724') where he will find clean and cheap, but rather rough and poor, accommodation in a small establishment frequented by a few patients. The water is strongly impregnated with sulphate of iron and other salts. This place is very near the opening of the valley. *Morter*, standing at the point where it opens into the Vintschgau, is but ½ hr. below the mineral spring. From that village the traveller proceeding to Meran should take the country road to *Lutsch* (Inns: Post; Rössli), the nearest post-station on the high road from Landeck to Botzen (§ 48), about 1 hr. distant from Morter. If his course be towards the head of the Vintschgau, he should go directly from Morter to Goldrain, and thence follow the high road to Schlanders, about 1½ hr. from Morter. The entrance to the Martellthal from this side is very picturesque. The fine peak seen to the l. is the *Hasenohr* (10,675'), the highest point of the group which is collectively called Flatschberg.

*Ascent of the Königs Spitze* (12,646') and the *Monte Cevedale* (12,505'). The Cevedale Pass above described lies be-

two peaks that both offer many attractions to mountaineers—the first, by its greater height and bolder form; the second, by its more central position, which overlooks the little-known recesses of the snowy range dividing the Val della Mare from the Forno Glacier.

The Königs Sp. had preserved its reputation for inaccessibility until 1864, though its summit had been reached ten years before by a monk named Steinberger, on whom the mantle of Placidus a Spescha seems to have fallen in this century. Alone, and very imperfectly acquainted with the topography of the district, he made his way from the Stelvio Pass across the Madatsch Joch (?), and the snow-fields extending on the S. side of the ridge from thence to the peak of the Königs Sp. Achieving the ascent by the SE. arête, he returned on the same day to Sta. Maria on the Stelvio road (Rte. A). In 1864 Mr. Tuckett, with Messrs. E. and H. Buxton, effected the ascent, of which an account is given in the 8th No. of the 'Alpine Journal.' Ascending by W. side of the Cedeu Glacier, and the snow-slopes descending from the peak, they struck the SE. arête about 1,000 ft. below the top. Though steep, the remainder of the way presented no serious obstacle, except from the violence of the wind, which allowed them to remain but a few minutes at the top. In descending they followed the SE. arête to a point lower down than that at which they first struck it, till they reached a well-marked notch in the ridge, which Mr. Tuckett has called Königs Joch. From thence the descent to the Sulden Glacier was over crumbling rocks of dolomite, dangerously loose and steep. It cannot be recommended as a way to Sulden. It is far better to descend to the plateau of the Cevedale Pass, and cross by the Janiger Scharte (see above). Since Mr. Tuckett's ascent the peak has been attained several times.

The first ascent of the *Monte Cevedale* (12,505') was made by M. Von Mojsisovics in 1864, with Janiger as guide.

In a violent storm he attained with difficulty the E. peak. This is surpassed by the SW. peak, reached in 1866 by Messrs. Tuckett and F. Browne. Having ascended to the Vedretta di Tschengels, an affluent of the Forno Glacier, this was traversed, and they climbed the ridge connecting the Cevedale with the Pallon della Mare to a depression some way S. of its lowest point. Thence there is no difficulty in descending eastward to Val della Mare, either by the Vedretta Rossa, or the V. della Mare. First turning S., the travellers reached the summit of the *Pallon della Mare* (12,038'), then returning, and traversed the long ridge leading to the Cevedale. The ridge in question may be passed at various points. The easiest way (Passo della Fornaccia of Tuckett) is apparently the Passo della Mare of Lt. Payer's map, 11,148 ft. in height.

#### ROUTE D.

##### GLACIER PASSES FROM SANTA CATERINA TO PRAD.

The activity of the mountaineers named in the last Rte. has opened out several new and tolerably direct ways from Val Furva to the Stilsferthal (Rte. A), without resorting to the high road. None of these should be undertaken without efficient guides.

1. *By the Madatsch Joch* (10,750'). This way is by the snow col between the Monte Cristallo and the Southern Madatsch Spitze. It was approached from the W. by Mr. Tuckett and his companions in 1864, by the *Val di Vitelli* (Rte. A), and the great *Vedretta di Vitelli*, which fills the head of the glen; but it can be attained in less time from the summit of the Stelvio Pass by a traveller who has slept at Sta. Maria, or even at Trafoi. The descent to the Val di Zebbru is steep,

but does not seem to be very difficult. The shortest course is doubtless to descend directly into the last-named valley, and to reach Sta. Catarina by the road from S. Gottardo (Rte. B). A more interesting way was selected by Mr. Tuckett's party. Instead of descending the glacier (named by Mr. Tuckett *Vedretta di Cristallo*), they crossed it in a direction but little S. of E., and crossing a low ridge struck upon another small glacier, intermediate between the last and the more considerable *Zebru Glacier*, covering the S. slopes of the Kl. Zebru. They then descended diagonally, reached the vast slopes of débris that overhang the Val di Zebru, crossed these nearly at a level, traversed the narrow icy tongue of the Zebru Glacier, and finally, by a gradual ascent, reached the lowest point in the ridge connecting the Monte Confine with the Königs Sp. This pass, connecting Val di Zebru with Val di Forno, is called by Mr. Tuckett *Passo di Zebru* (9,700'). It was reached in 5 hrs. from the Madatsch Joch, and in 2½ hrs. more Sta. Catarina was reached by the Val Forno.

2. *By the Trafoier Joch.* In 1867 Messrs. Tuckett and E. Howard, after finding good night-quarters at the first chalets above Prato Beghino in Val di Zebru, ascended towards the rt. bank of the glacier that lies on the S. slope of the Thurwieser Sp., and then bore somewhat to the l. Attempting to cross a rocky ridge on the W. of their course, they lost 2 hrs., and had to return and mount to a snow saddle above this ridge. The way then lay some way over névé in the direction of the Madatsch Joch, till, bearing to the rt., they reached the col between the Schnee Glocke and the Madatsch Sp. This was named *Trafoier Joch* (about 10,800'). The top of the Schnee Glocke, previously reached by Lt. Payer, was attained, and they returned to the pass. The descent, which might be difficult at a later season, was made by a series of glissades, till, skirting the slopes of the N. Madatsch Sp., they reached the

lower part of the Madatsch Glacier and the Stelvio road.

3. *By the Orteler Joch* (11,000'). This pass lies over the broad col between the Thurwieser Sp. and the Kl. Zebru. This is easy of access from the Val di Zebru, but very difficult on the N. side towards Trafoi. It was traversed from that side in 1865 by Messrs. Tuckett, Freshfield, Fox, and Backhouse, with François Devouassoud and Peter Michel. The ascent was commenced by the very steep rocks of the Ziegerpalfen, after which the Lower Trafoi Glacier was crossed to some slopes of débris beneath the cliffs of the Orteler Sp. After some time it was necessary to return to the ice, and force a way through huge broken séracs till the upper névé was attained. One hr. more, ending with a short but steep climb up a snow wall, took them to the top of the pass in 7½ hrs. from Trafoi. On the rt. hand rises a snow summit, which is an eastern offshoot from the Thurwieser Sp., and on the l. the ridge connecting the Orteler Sp. with the Kl. Zebru. Time did not allow the ascent of the latter peak; but the party mounted about 500 ft. to the lowest point in the ridge connecting it with the Orteler Sp.

Bearing to the rt. from the pass, the travellers reached the rt. lateral moraine of the Zebru Glacier in 1½ hr., and continued the descent to Val di Zebru by steep slopes, reaching S. Gottardo, at the junction of that glen with Val Furva, in 3½ hrs. from the summit.

Mr. Tuckett thinks that time would be saved by making the first part of the ascent by the E. side of the Lower Trafoi Glacier, by the same course that was taken in some of the earlier ascents of the Orteler Sp. Until it is better known, this pass should be attempted only from the side of Trafoi or Suldén.

3. *By the Suldén Glacier.* It will be inferred from the description of the Passo Cavedale in Rte. C that it affords the most direct and easiest glacier route

from Sta. Catarina to the Suldenthal. From the summit of that pass (4½ hrs. from Sta. Catarina) easy slopes of *névé* (not on that account to be traversed without a rope) lead to the *Janiger Scharte*, a ridge E. of the *Sulden Spitze* (11,109'), dividing the *névé* of the *Langenferner* from the head of the *Sulden Glacier*. The descent towards the latter is rather steep, and may sometimes require the ice-axe. For a notice of the *Sulden Gl.* see Rte. F. The village of St. Gertrud may be reached in 3½ hrs., exclusive of halts, from the *Passo Cevedale*.

In 1866 Messrs. J. D. Finney and F. A. Lewin ascended from Sulden to the ridge already reached by Mr. Tuckett, connecting the *Orteler Sp.* with the *Kl. Zebra*, thus proving that the *Orteler Joch* may be taken from Sulden as well as from *Trafoi*. But the ascent cost nearly 5 hrs. of step-cutting in hard ice. The same party made the second ascent of the *Kl. Zebra*, and reached Sta. Catarina in 16 hrs. from Sulden.

### ROUTE E.

#### LAAS TO SULDEN, BY THE LAASERTHAL.

The *Laaserthal* is a short valley, enclosed by an irregular group of high peaks, that separate it on one side from the *Martellthal*, and on the other from the *Suldenthal*. For some notes respecting it, the editor is much indebted to M. von Mojsisovics, one of the most active explorers of this district. The valley seems to offer a choice of several fine passes leading to Sulden, and commanding grand views of the *Orteler Sp.* and the range enclosing the *Sulden Glacier*.

The *Laaserthal* opens opposite to the village of *Laas* in the *Vintschgau* (§ 48). It contains no permanent dwellings, but the upper end is frequented in summer by herdsmen. Mounting steeply by the l. bank of the *Laaserbach*, the track enters the valley,

which for a considerable distance is a mere barren ravine. In 2½ hours the pastures of the *Laaseralm* are reached. These lie but a short distance from the foot of the *Laaserthal-ferner*, a very fine glacier that flows northward into the head of the valley. The most interesting way to Sulden is probably that by the NW. branch of the valley. For some way a path runs through this desolate glen, filled with huge blocks of gneiss, till, after ascending 1 h. the way turns sharply to the l., and a stiff climb over steep rocky slopes leads to the *Ofenwand Scharte*, a depression in the range of the *Hochhofenwand*. The highest point, 11,558 ft. above the sea, lies some way to the S., and is separated from the pass by the *Angelus Spitze* (10,982'). On the W. side the descent is by the rt. bank of the *Zaiferner*, and the *Zaithal*, a short glen leading to Sulden in 5 hrs. from the *Laaseralm*. The ridge seen to the rt. from the summit of the pass is the *Tschengelser Hochwand*, of which the highest point is the *Kompatsch* (11,065').

The other, rather longer, way from the *Laaserthal* to Sulden mounts by the rocks on the rt. bank of the *Laaserthal-ferner* to the upper plateau of that glacier, which leads to the *Laaserthal Joch*. This lies between the *Vertrain Sp.* (11,371') and the *Mittlere Peder Sp.* (11,349'). The former, which must command a very extensive view, may best be ascended from the pass. The descent to Sulden lies over the *Rosin-ferner*, a glacier filling the head of the *Rosinthal*, a tributary of the *Suldenthal*. The ice must be left on the rt. bank above the lower ice-fall, and the slopes of the *Vorder Vertrain Sp.* descended to the main valley, which is reached near to St. Gertrud.

Several passes connect the *Laaserthal* with the *Martellthal*. By bearing to the l. from the *Laaserferner Joch* it is possible to reach the *Peder Joch*, between the *Mittlere* and *Innere Peder-spitze*, and so descend by the *Pederthal* to the upper end of the *Martellthal*.

Another way mounts eastward from

the Laaseralm, and crosses the *Schluder Scharfe*, descending into Martell between the Orgelspitze and Rosskopf. The Martellthal is reached at a point between Maria Schmelz and Gond in 6 hrs. from the Laaseralm.

The *Orgelspitze*, commanding one of the finest views in this district, is easily reached from the summit of the *Schluder Scharfe*, or directly from Thal in the Martellthal.

#### ROUTE F.

##### MALÈ TO TRAFOL, BY THE SULDEN-THAL.

One of the finest lateral valleys of the Val di Sole is that of Rabbi, and it is rendered more easy of access than the others owing to the existence of a strong chalybeate spring, which annually draws a large number of Italian and German visitors. By this, or by the Val della Mare, noticed in Rte. B, the mountaineer may follow an interesting route to the fine valleys of Martell and Suldén, but probably not those of Val di Rabbi and Val della Mare. D. Veneri and Binder of Cogolo, and a man named Kuens, at Vermiglio, are said to have some acquaintance with the glaciers at the head of Val di Sole, but in Val di Rabbi there is no

tolerable guide known to the writer. A man who undertook that calling in 1860 completely lost his way, and showed himself utterly incompetent in all respects. In fine weather local knowledge is of secondary importance; but when the clouds lie low, it can with difficulty be dispensed with. The writer has little doubt but that the distance from Rabbi to Suldén can be accomplished in one long day, and the way from Pejo to Suldén would be easier in good weather. It is a more advisable course to sleep at some of the chalets in the upper Martellthal, leaving time to enjoy the fine scenery. As the way by Rabbi is probably the more interesting, it is that first described here.

1. *By Rabbi, and the Saënt Pass* (9,954'). The Val di Rabbi joins the Val di Sole a short way below Malè (Rte B), and a tolerable but rough char-road has been carried along the l. bank of the torrent. For the pedestrian there is a rather shorter and more shaded way by a path that mounts steeply on the rt. bank of the Rabbies torrent, and finally crosses to the l. bank nearly 2 hrs. from Malè. The valley is a narrow glen, and the scenery wild rather than grand, as the higher peaks do not come into view. The ascent is in places rather steep, till the traveller attains *S. Bernardo*, the principal village. A little farther he crosses to the rt. bank, and in about 3 hrs. from Malè reaches *Rabbi* (4,035'), a village composed of inns, standing on level ground on either side of the Rabbies torrent. The accommodation is rather primitive, and even in the two principal inns (Al Fonte and Palazzo), the rooms are very rough, and the beds, though clean, far from comfortable. The first-named is considered the best inn. Dinner is served at noon, and supper about sunset: for these meals, and a small bed-room, the daily charge is 3 florins in paper money, equal to about 5 shillings—a rate considered high in the Tyrol. The people of the house and adjoining café are very civil, and make no objection to

getting up and preparing breakfast for mountaineers at 3 A.M. Though the position is by no means equal to Sta. Catarina or Trafoi, this place may well serve as head-quarters for exploring the neighbouring peaks and glaciers. [There is a way to *Pejo* over the *Passo di Cercen* (8,616'), traversed by Mr. T. Rutt in 1864. The summit, reached through a glen opening WSW. of Rabbi in 4 hrs., commands a very grand view. 2½ hrs. suffice for the descent to Cogolo, ¾ hr. from the Baths of *Pejo*.] Near Rabbi the botanist may gather *Primula longiflora*, *Thalictrum fætidium*, and other rare plants. The upper part of Val di Rabbi consists of four successive steps, each lying nearly level, and separated from the next by a very steep barrier of rock. The ascent is in a NNW. direction; but towards the head of the valley the main branch bends first to NW., then nearly due W. The only way to reach the Suldenthal from Rabbi is by crossing the head of the Martellthal, and the only known pass lies considerably E. of the *Venezia Spitze*, or Pizzo Venezia (11,095'), one of the boldest peaks of this group, though surpassed in height by several others.

On approaching the head of the valley—locally called *Saënt*—the traveller should follow a course nearly due N., passing near to a bold summit which is a northern outlyer from the *Eggen Spitze* (11,263'). The latter, which is the highest of the peaks enclosing the Val di Rabbi, lies somewhat S. of the pass, and separates *Saënt* from the upper end of the Ulenthal. The *Saënt Pass*, also called *Gramsen Joch*, commands a very fine view of the surrounding Alps; and this may be further extended by ascending the *Hintere Rothspitze* (10,532'). From that summit it is also possible to reach Val della Mare by the *edretta di Venezia*. In about 6 hrs.' steady walking from Rabbi, exclusive of halts, the Martellthal is reached about halfway between the Cevalhütten and Maria Schmels (kte. C).

To reach the Suldenthal from the head of the Martellthal, the traveller has a choice between three passes, of which two are quite easy. These are approached by a short lateral glen, called *Madritschthal*, which opens nearly opposite the shepherds' huts known as Cevalhütten. The path is nearly level till it reaches a transverse mound (ancient moraine?) that stretches across the glen. Above this, at the head of the valley, are seen three slopes of *névé*, or incipient glaciers, of which the central one leads to the *Madritsch Joch* (10,252'). This lies between the *Madritsch Spitze* to the l., and the *Schön-tauf Spitze* (10,893') to the rt., and is reached in 2 hrs. from Ceval. It commands an extremely favourable view of the Orteler, Kl. Zebbru, and Königs Sp., which rise very grandly above the wide expanse of the Sulden Glacier. In the opposite direction the peaks of the Zufried range are also well seen. A rather steep descent leads down to the *Suldenjerner*, the great glacier that encloses for a space of several miles the head of the Suldenthal. It is formed by the welding together of a number of comparatively short ice-streams that descend from the flanks of the range connecting the Orteler Sp. with the Madritsch Sp. The consequence is, that its breadth is at least three times as great as its utmost length, which may be measured from the foot of the Königs Sp. to the lowest point that it reaches in the Sulden valley. The result of this peculiar formation is that a season that would occasion a slight increase in an ordinary glacier, here produce a multiplied effect, inasmuch as the extra flow from each separate portion is accumulated nearly at a single point. In fact this glacier is famous for its extraordinary vicissitudes, for which an unsatisfactory explanation was suggested in the first edition of this work.

Keeping somewhat to the rt., the traveller quits the glacier and reaches the Gampenhof. This is a small group of houses, lying in the fork between



the main stream of the Suldénbach and that issuing from the Rosimthal, a lateral gien originating on the W. side of the Peder Spitze. For about  $\frac{1}{2}$  m. above the Gampenhof, the torrent from the Suldén Glacier flows through a gorge whose slopes on either side are bare of vegetation. Through this space the glacier advanced very rapidly in 1817, halting only when within 50 yards of the Gampenhof. Old larches and arollas, as well as the herbaceous vegetation, were swept away, leaving the soil covered with glacier mud and moraine débris. Since that year the glacier has gradually retired. In 1855, Prof. Simony found that masses of old glacier ice, preserved from melting by the overlying débris, lay far below the present termination of the glacier, and still served in one place to bridge over the torrent. A level path through meadows along the l. bank of the main stream, leads in  $\frac{1}{2}$  hr. from Gampenhof to *St. Gertrud* (6,057'), the only village in the valley—not to be confounded with that of the same name in the Ultenthal (Rte G). An inn has lately been opened, but better quarters are, perhaps, afforded by the parish priest, whose house stands near the church. This place is reached in  $4\frac{1}{2}$  hrs. from the Cevalhütten.

The name *Suldén Joch* has been often given to the pass above described, between the *Schöntauf Sp.* and the *Madritsch Sp.*, but properly belongs to another pass lying on the NE. side of the first-named summit, between it and the *Innere Peder Sp.* (10,768'). It is approached through the *Madritschthal*, and is of about the same height and length as the *Madritsch Joch*; but the view is inferior. From the summit of either pass, the *Schöntauf Spitze* (10,893') is easily climbed in  $\frac{1}{2}$  hr., and rewards the slight effort by a magnificent panoramic view.

Somewhat longer, and decidedly more difficult, than either of the above named passes, is the *Peder Joch*, between the *Innere Peder Sp.* and the *Platten Sp.*,

approached through the *Pederthal*, which opens into the *Martellthal* about 1 hr. lower down than the *Madritschthal*. Keeping well to the l., or about due W., the traveller descends into the *Rosimthal*, which joins the *Suldenthal* at Gampenhof. As mentioned in Rte. E, a course about due N. from the *Peder Joch* will lead the traveller by the *Laaserferner Joch* to the head of the *Laaserthal*.

2. *By the Val della Mare.* The existence of a pass from the *Val della Mare* to the *Martellthal* has been long known to the natives, and is affirmed by the Austrian Map of Tyrol, but no authentic information on the subject was available until the *Jahrbuch* for 1865 of the Austrian Alpine Club contained an account of the pass in question by Lt.-Col. Bauer, who took as guides two incompetent men named *Binder*, of *Cogolo*. The pass is called *Hohenferner Joch*, or in Italian, *Passo della Vedretta Alta*, and is 9,904 ft. in height. The more easterly and easier pass, mentioned below, is higher by 608 ft.

Starting from *Pelizzano* in *Val di Sole* (Rte. B), the traveller follows the char-road along the rt. bank, till some way beyond *Cusiano* he crosses to the l. bank of the *Nos*, where a tolerable road leads him up to *Cogolo*, a small village with a rough inn, just below the junction of *Val della Mare* with the *Val del Monte*, reached in 2 hrs. from *Pelizzano*. Crossing the branch of the *Nos*, issuing from the former valley, the way lies about due N., keeping to a rough cart-road that leads to a saw-mill erected at the junction of a glacier torrent from the *Vios Spitze*, that descends through a lateral gien called *Vallenaja*.

The *Val della Mare* is one of the wildest and most savage glens in this part of the Alps, completely enclosed by the snowy range that extends from the *Vios Sp.* to the *Venezia Sp.* As the traveller ascends, the snow pass between the *Cevedale* and the last-named peak, over which lies the way to *Martell*, is constantly in view. Be-

yond the saw-mill the ground is to a great extent covered with débris, until the highest of the successive steps forming the floor of the valley is attained. Here the three torrents that join to make up this branch of the Nos unite their waters. Lieut.-Col. Bauer was led by his guides along the westernmost of these streams, but he rightly points out that the course indicated on the Government Map, which follows the central stream, should be preferred. The ascent does not seem troublesome, and there are no glacier difficulties to contend with. A far preferable course to that indicated in the Jahrbuch, is to bear to the rt., towards the W. shoulder of the Venezia Sp., passing between two stone men erected on the summit of the ridge. From this point the *Venezia Spitze* (11,095') may be climbed in  $\frac{3}{4}$  hr. Even from the col the view is very grand. The descent on the Martell side is over the eastern affluent of the *Hohenferner*, and by that way no difficulty worthy of notice is encountered. The main portion of this glacier, after descending for some distance with a gentle slope towards the head of the Martellthal, sinks in steep and broken terraces of ice by no means easy to traverse. The Cevalhütten are reached by this pass in 6 hrs., exclusive of halts, from Cogolo. From thence the way to Sulden is that already described.

Having reached St. Gertrud by some combination of the above-mentioned passes, the traveller pressed for time may leave on his rt. hand the bridge at St. Gertrud, and follow the path along the l. bank. The valley contracts gradually as the descent becomes steeper; the path passes to the rt. bank, and in about 2 hrs. from St. Gertrud (or  $2\frac{1}{2}$  hrs. when ascending the valley), reaches *Gomagoi*, on the high road between Prad and Trafoi (Rte. A).

The traveller will, however, do wisely to give a day to the noble scenery of the Sulden valley, which rivals, without much resembling, that of the adjoining valley of Trafoi. Going direct from St. Gertrud towards

the base of the Orteler Sp., he will reach the spot at the base of its gigantic precipices that has received the local name '*End der Welt*.' This has been erroneously attributed, on many maps, to the upper part of the Sulden Glacier, where the name becomes unmeaning.

The reader will observe that many statements made in this and the foregoing Rtes. are inconsistent with the published maps, and even on some points with that of Mr. Tuckett in the 8th number of the *Alpine Journal*, the fact being that no existing map represents the form of the mountains accurately, and that the utmost confusion has prevailed as to the correct nomenclature. One source of numerous errors arises from the resemblance of the Sulden Sp., a snow cone seen at the SE. end of the Sulden Glacier, to the much higher but more distant Monte Cevedale. From a corruption of the latter name arose the designation *Zufall Spitze*, which has been attributed by turns to one or other of the peaks at the head of the Martellthal.

Mr. Tuckett has indicated a very fine high-level route from Pejo to Sulden, certainly easier, in favourable weather, than that here mentioned. The *Vedretta della Mare* reaches up to the depression (about 12,200') between the two peaks of the Cevedale; descending thence, gentle slopes of névé lead to the Janiger Scharte (Rte. D), and so to the Suldenthal.

#### ROUTE G.

##### RABBI TO MERAN, BY THE ULTENTHAL.

	Hrs. walking	Eng. miles
St. Gertrud . . .	5	12 $\frac{1}{2}$
Mitterbad . . .	4	12
St. Pankraz . . .	1 $\frac{1}{2}$	4 $\frac{1}{2}$
Meran . . .	3 $\frac{1}{2}$	10 $\frac{1}{2}$
	14	39 $\frac{1}{2}$

Nearly parallel to the Martellthal, described in Rte. C, is the *Ultenthal*, a still longer and more important valley,

whose junction with the Vintschgau is a little below Meran. The ridge separating them appears to be a NW. prolongation of the high chain extending from the Corno dei Tre Signori to the Venezia Spitze and Eggen Spitze at the head of Val di Rabbi. The scenery is not equal to that of the Martellthal, but it is far more accessible, and the valley may well be taken by a moderate walker in the way between Rabbi and Meran. The upper end of the Ultenthal is chiefly composed of mica-schist; but porphyry and granite are seen in several places as the traveller descends the valley. The best accommodation on the way is at the Baths of Mitterbad; but very fair quarters are, or were, found at Kuppelwiese, within 7½ hrs.' steady walking from Rabbi.

There are many passes by which it is possible to reach the Ultenthal from the Val di Rabbi or Val di Sole. The most interesting of these, and the most direct from Rabbi, is by the *Kirchberger Joch* (8,134'), nearly due N. of that place. At the summit the path traverses a cleft on the E. side of the Pizzo Sassfora. The torrent which has been followed during the ascent, issues from the *Corvo See*, a lake lying on a plateau N. of the range dividing the valleys of Ulten and Rabbi; but instead of being drained in what appears the natural course towards the Ultenthal, the waters escape in the opposite direction through the cleft. The descent from the lake lies NE., through a branch of the Ulten valley called *Kirchbergerthal*, opening close to the highest village, *St. Gertrud* (Inn, poor), 4,949 ft. above the sea.

[Two fine passes lead from St. Gertrud to the upper part of the Martellthal, to both of which the name Soyjoch has been vaguely given. This is especially inappropriate to the southernmost pass, properly called *Zufrid Joch* (9,905') which traverses the ridge SW. of the *Zufrid Spitze* (11,262'). This peak may be ascended from the summit of the pass. The way to it lies through a lateral glen—*Zufridthal*

—WSW. of St. Gertrud, leading to the *Zufridjerner*, over which glacier lies the descent to the Marteller Alm. The other pass, which is lower, and equally interesting, is by the *Bilsberg Joch* (9,360'). This lies on the NE. side of the *Zufrid Sp.* On the Ulten side the botanist may gather the very rare *Carex VahlIIi*. The faintly marked track on the Martell side leads to Gond, 1 hr. above Salt (Rte C.).]

The most interesting excursion from the head of the Ultenthal is the ascent of the *Eggen Spitze* (11,263'), whose highest peak is reached in 7 hrs. from St. Gertrud. As it exceeds in height all the neighbouring summits, it naturally commands an unbroken panoramic view of great extent.

The descent from St. Gertrud is by a somewhat beaten track, as during the summer season there is frequent passage between Rabbi and Mitterbad. Many of the patients using the baths at the latter place are recommended to drink the waters of Rabbi, which are bottled and carried across the pass on men's backs. About 1½ hr. below St. Gertrud is *St. Nicolaus*, where a track to Val di Non mounts SSE. through the *Neinerthal*. *Kuppelwiese*, where there is, or was, a fair mountain inn, is about ¾ hr. below St. Nicolaus. This is said to be the most picturesque position in the valley, and is conveniently situated for the ascent of the *Hasenuhr* (10,673'). [Unlike most of the mountains of this district, this overlooks a considerable reach of the fertile and thickly peopled valley of the Adige, presenting a striking contrast to the great snowy ranges that rise to the N. and SW. The way lies by a sheep pasture called *Wolfsgrube*, and the summit is easily reached in 5½ hrs. As the peak is at least equally accessible from the Martell side, it may be taken on the way from Kuppelwiese to Salt.] The torrent, descending from the N., issues from the *Kuppelwieserthal*, through which lies a track to Latsch in the Vintschgau. Below Kuppelwiese there is a choice of paths. The

less frequented way is by the slopes on the N. side of the valley, passing the ancient church of St. Moritz, and the village of *Wallburga*, joining the other path below the *Marauner Loch*. The beaten track keeps along the main torrent—the *Valschauer*. Passing many waterfalls, but few houses, one of them an inn, at a place called *An der Ecke*, the traveller reaches in 2 hrs. from *Kuppelwiese*

*Mitterbad*, one of the most frequented of Tyrolese watering-places, though little known to strangers. The baths are considered very efficacious, and the place is often quite full in summer: the accommodation is said to be fairly good, and the charges reasonable. The favourite excursion for those who do not fear a mountain climb is the ascent of the *Lauchenspitze* (7,753'), overlooking the valley of the Adige between Meran and Botzen, a great part of the Ultenthal, and an extensive Alpine panorama. Below the Baths the track is carried through a defile called *Marauner Loch*. On issuing from this, the valley opens out, villages are seen on the slopes on either side, and in 1½ hr. from *Mitterbad* the traveller reaches

*St. Pankraz*, the principal village of the valley. The lover of ghost stories and folk-lore may find occupation in collecting the many marvellous tales still current among the country-people in this district. Some of them are told in *Schaubach's 'Deutsche Alpen.'* Amid very pleasing scenery the traveller descends from *St. Pankraz* to the opening of the valley, passing the ancient castle of *Braunsberg*, which is still maintained in habitable condition. The three hamlets of *Ober*, *Mittel*, and *Unter Lana* stand at the opening of the Ultenthal into the valley of the Adige—Germ. *Etschthal*. Meran lies about due N., and only about 4 m. distant; but as the broad stream of the Adige lies between, a considerable détour is necessary.

With a vehicle, the best way is by *Unter Lana*, whence a road leads across

the Adige to *Burgstall*, on the high road from *Botzen* to *Meran*. The pedestrian will do better to follow a track from *Ober Lana* to *Marling*, near which place he finds a bridge over the river leading to the high road close to *Meran*. The heat of the main valley is sometimes almost insupportable to the mountaineer descending from the upper Alpine region.

Another way from *Rabbi* to *St. Gertrud*, longer than that above described, but probably interesting, is from the upper part of *Val di Rabbi*. A little-used track leads NE., by the S. side of the *Eggen Spitze* (Rte. D), and descends into the head of the main branch of the *Ultenthal*, about 1½ hr. above *St. Gertrud*.

Additional information as to the passes noticed in this and the preceding Rtes. will be thankfully received.

## ROUTE H.

### MALÈ TO ST. PANKRAZ IN THE ULTENTHAL.

It has been seen in Rte. B that the *Nos* torrent, originating in the glaciers at the head of the *Val di Sole*, flows ENE., nearly parallel to the *Ultenthal*, till it is abruptly bent from its direct course a few miles N. of *Cles*, and thenceforward keeps nearly due S. in its way to join the Adige near *S. Michele*. It would appear as if the change

in the direction of the valley were connected with the existence of a dolomitic range, known as the *Mendola*, which extends on the rt. bank of the Adige between Meran and S. Michele. In this district, as in many others, the meeting of the crystalline slates and the dolomite is marked by a line of valley connected with low passes, and to the geologist it is a matter of interest to trace the relations of those rocks at and near their junction. For this purpose the path here indicated may be recommended. Near the point where the road from Malè to Cles (Rte. B) descends to cross the Nos, a torrent enters that stream from the N., and by mounting in that direction the traveller may choose between three passes leading to the Ultenthal. Soon after leaving the road and accomplishing the first step in the ascent, a lateral valley, drained by the *Bernes* torrent, descends from WNW., and by that way a path leads to St. Gertrud (Rte. E). About 1 hr. farther, another lateral valley, parallel to the last, gives a passage to the *Lavace*, a torrent descending from the pass to St. Nicolaus. The main branch of the stream, mounting due N. from its junction with the Nos, is that which marks the junction of the dolomite with the crystalline slates. As elsewhere in Tyrol, the appearance of the dolomite seems to be connected with that of porphyry, of which a band (perhaps represented too broad in the geological map annexed to this volume) is traceable along a portion of the boundary. The chief village is called *Proves*, inhabited by Germans from the Ultenthal; and an easy pass leads to that valley, and reaches the banks of the Valschauer between Mitterbad and St. Pankraz. By bearing to the l. the traveller may descend direct to the Baths. See Rte G.

## ROUTE I.

## CLES TO MERAN OR BOTZEN.

Various mountain tracks cross the dolomitic range of the *Mendola*—Germ., *Mendel*—and so connect the valleys of Sole and Non with Meran or Botzen. The most direct way from Cles to Meran is by the Gampen Pass. A char-road crosses the Nos, and then mounts NE. to *Fondo*, a village with a poor Inn (Bei Gerber). Count Thun, who has large possessions in this district, all forming a portion of the Val di Non, or Nonsberg, owns two ancient castles that attract the attention of the traveller. The distance from Fondo to Meran, which must be performed on foot or on horseback, is counted 9 hrs. The ascent from Fondo is rapid and continuous, and at many points commands fine views, especially near the hamlet of Tret, where the eye ranges over the entire length of the Val di Non. The course then bends to NNW., and before long reaches the pilgrimage church of *Unsere Liebe Frau im Walde*, standing but a short way below the summit of the pass. There is an Inn here; and there is, or was, another, more tempting to the traveller, on the *Gampen Pass*. It was kept by a retired servant of Count Thun, and frequented by sportsmen in the autumn.

From either inn the traveller may well ascend the *Lauchenspitz* (Rte. G), and may take the summit on his way by the lower end of the Ultenthal to Meran. The direct way to the latter place lies NNE. from the pass to the hamlet of Platzers, at the upper end of a short glen called *Völlantherthal*, by which there is an easy descent to *Völlan*. This lies on the slope of the mountain overlooking the Adige, at no great distance from Unter Lana, mentioned in Rte. G. The way to Meran is by the bridge leading to Burgstall, on the high road from Botzen.

A much more interesting way than that by the Gampen may be taken from Cles to Kaltern, in the valley of the Adige below Botzen. This lies through the *Val Romedio*, opening about due E. of Cles, the lower end being a gorge enclosed by steep limestone rocks. It is formed by the union of two branches: the one mounting to NE. is called *Val Rufredo*; the other, SE. branch, is *Val Verde*. In the angle between them, perched on rocks so steep as to be scarcely accessible, is the Hermitage of San Romedio. This is a most curious building, containing five chapels standing one over the other, the highest of them commanding a singular view into the giddy depths below. There is a little inn at the foot of the tower, where some refreshment is found.

Following the NE. branch of the valley, the traveller passes *Amblar*, whence may be made the ascent of *Monte Roen* (6,919'), the highest point of the Mendola range, and reaches *Rufredo*, the last village. This is  $\frac{3}{4}$  hr. below the pass of *Mendelscharte* (4,964'), whence it is easy to descend to Kaltern; but the shorter way to Botzen would probably be to bear to the l. towards *Epplan*.

The valley of the Adige between Botzen and Verona is described in § 37.

## ROUTE K.

### BORMIO TO SANTA MARIA.

Having in the preceding Rtes. given some account of the principal valleys of the Orteler Alps, it is now necessary to notice briefly the ranges on the N. side of the Stelvio Pass, lying between the main road described in Rte. A and the Lower Engadine. These ranges lie partly in Switzerland, and partly in Tyrol; but the boundary is in great part purely arbitrary, though in the main it keeps to the natural rule which would give the tributaries of the Engadine to Switzerland, and those of the Vintschgau to Tyrol. The chief exception to this rule is in regard to the valley of the *Rammbach*, a considerable torrent that joins the *Etach*, or Upper Adige, near *Glurns*. The greater part of the valley in question belongs to Switzerland, and above the dividing line it is called in the local *Romantsch* dialect, *Val Mustair*—Germ. *Münsterthal*. The valley is described in the next Rte., and we here merely notice the passes by which the principal village—*Münster*—may be reached from *Bormio*, the natural centre of this district.

1. *By the Umbrail Pass, or Wormser Joch*. It was mentioned in Rte. A, that the summit of this pass lies but a few ft. above the post-house, or *Cantoniera*, of *Sta. Maria* on the *Stelvio* road, and that it affords the natural line of connection between the head of the valley of the *Adda* and the upper end of the *Vintschgau*. The summit of the pass is 8,342 ft. above the sea. It overlooks a short glen called *Val Muranza*, through which a torrent flows nearly due N. to join the *Rammbach*. The track, which is well marked and passable for beasts of burden, descends at first by rather steep zigzags, then follows the course of the torrent for about 1 hr., and finally descends on its right bank by a rather rapid declivity to *Santa Maria* (4,519), noticed in Rte. L.

2. *By Val Fraële.* In ascending towards the Stelvio Pass, a torrent is seen to break out from a narrow cleft on the l. of the high road about 1 m. above the Baths of Bormio. This, which is usually considered to be the main stream of the Adda, descends ESE. from a highland valley called *Val Fraële*. The gorge through which the stream issues to join the Braulio torrent is impassable, but a rather steep sledge-track, used to bring down iron ore, mounts the slopes, and leads to the upper part of the valley. Most persons bound from Bormio to Val Fraële prefer an easier way by the Val di Dentro (§ 36, Rte. I.). Soon after crossing the Adda by the bridge at the iron-works below the Baths of Bormio, the traveller finds a tolerably good cart-track, which mounts gradually till in 1 hr. from the Baths it reaches a hollow, whence a short but rather steep ascent leads to the Pass of *Le Scale* (6,516'). The greater part of the surface of this broad and deep depression is occupied by a picturesque little lake. The cart-track passes above its N. shore and leads by an easy descent to the middle part of Val Fraële. This shows a considerable tract of alpine pasture, inhabited only in summer by a few herdsmen. Its upper end is connected by no less than three passes with as many tributaries of the Spöl, one of the chief affluents of the Inn.

One of these passes, leading to Trepalle and Livigno, is reached by turning abruptly to the l., or nearly due SW., through a glen called Val Gettino, and then bearing W. over a depression leading directly to the former village.

The second pass lies due W. of the oratory of San Giacomo, nearly at the head of Val Fraële. After passing a small pool or tarn, called the source of the Adda, a very slight ascent leads over the ridge to another similar pool that is drained in the opposite direction. A path above the rt. bank leads thence down to the junction of Val di Trepalle with Val Livigno (see § 36, Rte. M.).

The third pass, 6,431 ft. in height, is the lowest but one between the basin of

the Adda and that of the Inn. The path mounts NW. from S. Giacomo over a low grassy ridge, and then descends no less gently to the Bruna torrent which flows NNW. into the Spöl at the point where it enters Swiss territory.

The way from Val Fraële to Val Mustair is over the last-mentioned pass: but instead of descending along the l. bank towards the Spöl, the traveller must keep to the rt., and ascend along a tributary stream which joins the Bruna at a very acute angle. The way lies through Val Mora, a glen lying in Swiss territory. Mounting slightly along the l. bank in a direction but little E. of N., after 1 hr. the path crosses to the rt. bank of the torrent, and bends gradually to the E. Before long the glen opens out to ESE., and the traveller sees before him a highland pastoral valley, parallel to the Val Fraële, and bearing the same name. This, which for the sake of distinction we shall call the Swiss Val Fraële, is more alpine in character, and the level is rather higher. The principal châteaux, called Münster Alpen, stand at 7,001 ft. above the sea. A very gradual ascent from these châteaux to the pass of *Dossrotund* (7,249') leads into one of the branches of Val Mustair. It will be seen on the map that the pass of *Dossrotund* lies due N., and but  $4\frac{1}{2}$  m. distant in a straight line from the lower end of the Italian Val Fraële, and that the long circuit made in following the route here described has been effected in order to pass round the range of high peaks whose principal summits are *Piz Murterol* (10,423') and *Piz Ciembraida* (10,246'). A rather rapid descent leads from the *Dossrotund* Pass to the main valley of the Rammbach, which is reached between the adjoining villages of Valcava and Santa Maria, about  $\frac{1}{2}$  m. from the latter place.

3. *By the Passo dei Pastori.* Instead of making a wide détour, the mountaineer may take a nearly direct course from the lower end of Val Fraële to Santa Maria. A little above the gorge through which the Adda issues from

Val Fraële, it is joined by a torrent that descends from the N. through an alpine glen called Val Forcola. To reach this from Bormio, the traveller must follow the sledge-track mentioned above, that mounts on the N. side of the gorge of Val Fraële, and then descend a little to cross the torrent from Val Forcola before attempting to ascend into that wild glen. The Val Forcola passes under the W. side of Monte Braulio, and leads to a high pass in the ridge connecting Piz Umbrail with Piz Ciumbraida. The measurement, 2,860 metres = 9,383 ft., indicated on the Swiss Federal map, perhaps refers to a point some way above the pass, but its height probably exceeds 9,000 ft. The descent on the N. side is by a rather large tarn, called Lai da Rims (7,848'), and joins the track from Val Fraële, described above, about half-way between Dossrotund and Sta. Maria.

#### ROUTE L.

##### ZERNETZ TO MALS, BY THE OFEN PASS AND VAL MUSTAIR.

Rough road, in great part passable for light cars. About 10½ Swiss leagues.

This is one of the easiest passes over the main chain of the Alps, leading, as it does, from the Inn to the Adige; but it is very little frequented by strangers.

A moderate outlay would make the road fit for light carriages throughout, and the projected improvements will probably soon be effected. The upper part of the pass is somewhat monotonous; but there is fine scenery on the way to it, and many objects of interest in its vicinity.

It has been said in § 36, Rte. M, that the remarkable defile through which the Spöl descends from Val Livigno to join the Inn is in great part completely impassable. The road from Zernetz, after following the rt. bank for about 2 m., begins to mount above the stream, and gradually gains a much higher level, losing the defile from view, and leaving it at some distance to the rt. After making two circuits, to pass lateral torrents, it descends, about 3 hrs. from Zernetz, to the stream flowing from the Ofen Pass to the defile of the Spöl. Save a few patches of alpine pasture, the wild valley is clothed with forest throughout its entire length, and contains but one solitary house—the well-known mountain inn known as the *Ofen Wirthshaus* (5,919'). Though it offers but poor accommodation, it is well spoken of by all travellers, on account of the friendly and hearty reception given them by the host and his family. He is a famous sportsman, and has shot a large number of bears, which abound in the neighbouring mountains, and make havoc among the herds. [Tarasp may be reached from hence by the *Furcletta*, a pass connecting the head of *Val del Buotsch*, a short glen opening 1 m. E. of the inn, with the head of Val Plafna (§ 36, Rte. A).] The track now ascends gently, a little S. of E. along the rt. bank of the torrent, till in about 1½ hr. it reaches the base of the low ridge separating the Ofen glen from the head of Val Mustair. The name Buffalora, or Boffalora, has been sometimes applied to the pass leading to Münster (here called Ofen Pass), sometimes to a higher pass lying due S., by which the traveller may reach Val Fraële and Bormio. A short ascent from the point where the track



leaves the stream leads to the somewhat dreary *Ofen Pass* (7,070'). The summit is an undulating plateau, and tracks lead in various directions (one of them to the head of Val Scarla), so that it is easy to miss the way when there is snow on the ground or the clouds lie low. To reach the *Val Mustair*, or *Münsterthal*, the general direction hitherto followed through the valley is adhered to; but the path winds amidst the inequalities of the ground. The mountains of this district are partly covered with the *Pinus Mughus* (Germ. *Legföhren* or *Kniehulz*), whose stems and branches, lying on the surface of the rocks, afford cover to bears and other wild animals, while they oppose a serious obstacle to the pedestrian, and even to the practised mountaineer. A rather rapid descent leads from the pass into the populous Val Mustair, which presents a marked contrast to the silent and uninhabited district through which the traveller has passed since he left Zernetz. The first village is *Cierfs* (5,459'). To the l., on the slope of the mountain, is *Lu* (6,293'), a small village at an unusual height. A path leads that way by an easy pass into Val Scarla (Rte K). The char-road descends on the rt. bank of the Ramm-bach to *Fuldera*, and thence to *Valcava* (4,626'), about  $1\frac{1}{2}$  hr. from Cierfs. This is rather less than 1 m. from *Santa Maria* (4,513'), the most populous village in the valley. The Inn is good, probably the best in Val Mustair—char to Mals; 12 fr. At a saw-mill,  $\frac{1}{2}$  hr. below Sta Maria, the road crosses to the l. bank of the stream. Berg-falls and inundations of the torrent have done extensive mischief in the tract surrounding

*Münster* (3,995'), the last Swiss village. The people here are Roman Catholic, those of the upper valley being Protestant; and the name of the village comes from a famous Benedictine convent founded here by Charlemagne. It suffered cruelly, as did all the neighbouring villages, from the French, who were forced to retreat this

way in 1790, after having a few weeks earlier defeated the Austrians at the head of the Vintschgau.

After crossing the frontier of Tyrol, the traveller in  $\frac{1}{2}$  hr. from Münster reaches *Tauffers*, where he finds a population speaking German, and not over well affected towards their Swiss neighbours. The ruins of numerous castles attest the importance once attached to this valley, connected as it is by comparatively easy passes both with Switzerland and Lombardy. The pedestrian bound for Mals may leave the picturesque little town of Glurns on his rt., and go direct to Latsch, about 1 m. from Mals; but the rough char-road makes a détour by *Glurns*. *Mals* (Inns: Post; Hirsch) is described in § 48.

## ROUTE M.

### SCHULS TO MALS, BY VAL SCARLA.

One of the most picturesque of the lateral valleys of the Engadine is *Val Scarla*, whose torrent joins the Inn a little above Schuls, and close to the Baths of Tarasp. It lies between mountains most of which exceed 10,000 ft. in height, and is said to

abound in fine scenery, and to produce many rare minerals. The lower valley is savage and desolate, leaving no space for houses or cultivation; but about  $2\frac{1}{2}$  hrs. from Schuls the traveller reaches the solitary village of the valley, named *Scarl* (5,948'), whose existence in so remote a spot is probably due to considerable mines of argentiferous lead formerly worked here. Above this the valley opens out, and alpine pastures cover the slopes. About  $\frac{3}{4}$  hr. above *Scarl* the traveller bound for the Vintschgau leaves to his rt. the main branch of the valley, by which a path ascends to the S., and finally reaches a pass (7,385') leading to Lu in Val Mustair. The direct way to Mals or Glurns is by a short lateral branch of the valley, through which a track mounts somewhat S. of E. to a pass called *La Cruschetta* (7,599'), lying on the S. side of two high peaks—*Piz Seesvenna* (10,568'), and *Mai-pitschspitz* (10,374'). From the summit a rarely-used track leads S.E. to the head of *Val Avigna*. The torrent draining this glen forms the line of frontier between Switzerland and Tyrol, and a path, keeping most of the way to the Swiss side, descends along the stream, which joins the Rammbach between Münster and Taufers (Rte. I). Passing through the latter village, the traveller may reach Mals in about  $3\frac{1}{2}$  hrs. from the pass, or 9 hrs. from Schuls.

### ROUTE N.

#### REMÜS TO MALS, BY VAL D'UINA.

About  $1\frac{1}{2}$  m. above Remüs, in the Lower Engadine (§ 36. Rte. A), a bridge is thrown across the inn just below the hamlet of Crusch, and opposite the opening of *Val d'Uina*. Through this short glen there is a nearly direct way to Mals, more interesting to the mountaineer than that by Nauders. The track through *Val d'Uina* mounts rapidly to a high plateau forming the pass of *Sur Sass* (about (7,800'), which lies on the E. side of *Piz Cristiannes* (10,236'). The descent to Mals is through the *Schlinigthal*, and in about  $5\frac{1}{2}$  hrs. from Remüs the traveller reaches the small village of *Schlinig*, where there is an easy descent to *Schleiss*, opposite Mals. By bearing to the l. from the pass of *Sur Sass*, it is easy to reach the head of the *Zerzerthal*, and descend to the Heider See, nearly 8 m. N. of Mals. See § 48, Rte. A.

## CHAPTER XI.

### LOMBARD ALPS.

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A STRAIGHT line drawn from Colico, at the head of the Lake of Como, to Cles in Val di Non, will lie throughout close to one of the best defined lines of depression in the Alps. Deep valleys connected by low passes here mark an orographic limit which cannot be overlooked. To the S. of the Val Tellina and the Aprica Pass, a mountain range inferior in height to those of the Rhaetian Alps, but unbroken by any deep gap,

extends about 50 m. from W. to E. That this line of disturbance of the surface is of high geological antiquity, is rendered probable by the fact that the boundary between the conglomerates forming the principal range (usually referred to the *verrucano*), and the gneiss of Val Tellina to the N., as well as the trias of the Bergamasque valleys to the S., is parallel to that range and to the Val Tellina. The eastern

portion of the region, lying S. of the boundary above defined, is characterised by a vast mountain mass formed of a very peculiar, highly crystalline granite, containing much amphibolite, which rises into ridges exceeding 11,000 ft. in height.

There is at least as much reason for regarding the region here spoken of as forming one of the main divisions of the Alps, as can be urged for the separation of the Graian from the Pennine Alps, or those of Dauphiné from the Cottian chain. To ordinary tourists the whole forms a *terra incognita*; and scientific travellers, who are usually the first to explore new districts, have scarcely touched many of the most interesting valleys. The Editor's personal acquaintance with a considerable portion of this beautiful region is defective; and he has obtained so little information from other sources, that many of the routes here named are indicated rather than described. It may be hoped that the Italian Alpine Club will hereafter supply the required information, at least as to that portion of the territory that has been united to the Kingdom of Italy.

The limits of the region here defined under the name of *Lombard Alps* are accurately defined by the Lake of Como and its Lecco branch, to the W.; by the high-road from Colico to Cles through Val Tellina, and over the Aprica and Tonale Passes, to the N.; by the Val di Non, the valley of the Adige from San Michele to Trento, the road thence to Riva, and the Lake of Garda, to the E.; while the S. boundary is formed by the plain of Lombardy. The title, Lombard Alps, may be objected to on the ground that some of the valleys in the E. portion of the range belong to the Italian Tyrol; but the political divisions in this portion of the Alps are so capricious, that it is impossible to take them into account in an arrangement based upon the natural formations of the surface, especially as they do not here coincide with the boundaries anciently established be-

tween the contending races that have divided the occupation of the habitable parts of the Alpine chain.

## SECTION 38.

### BERGAMASQUE VALLEYS.

THE principal range of the Lombard Alps, running parallel to Val Tellina at no great distance from the Adda, sends down torrents that fall rapidly towards that river through short and steep valleys. On the S. side of that range, which is separated from the plain of Lombardy by an extensive mountain district where many of the secondary ridges affect a direction parallel with it, the minor streams are nearly all collected into the channel of three rivers—Brembo, Serio, and Oglio. The two first join the Adda before their united waters reach the Po, while the more copious stream of the Oglio is ultimately united to the Po a little S. of Mantua. The city of Bergamo stands at the extremity of one of the southern outlying promontories of the Alps, between the rivers Serio and Brembo; and the main valleys of those rivers and their tributaries, which have at all times followed the political fortunes of the city, are generally known as the Bergamasque Valleys. That name may conveniently be given to the district included in the present section, which comprehends, however, in addition to those valleys, the short but beautiful glens that lead to the E. shores of the Lake of Como, and the tributaries to the Adda drained by the torrents on the N. side of the principal ranges. The Editor has to acknowledge his own ignorance of a great portion of this district, and his ill success in obtaining useful information from other sources. The botanist who may desire to explore a region

extraordinarily rich in rare plants will find an excellent guide in a work by the late Dr. Rota, entitled 'Prospetto della Flora della Provincia di Bergamo,' which is a model for local works of the same class. It does not include the lateral valleys of Val Tellina, nor those that descend towards the Lake of Como; but the botanical reader will find in Rte. E some notes that may partially supply the deficiency.

## ROUTE A.

BERGAMO TO TIRANO, BY VAL  
SERIANA.

The way here indicated is probably one of the most interesting that can be followed in the Lombard valleys, but little information respecting it is at hand.

*Bergamo* (Inns: Italia, good; Fenice, tolerably good; both in the lower town) is an ancient city, divided into two distinct portions. The lower and more modern, originally a mere suburb, stands about 800 feet above the sea, on the margin of the great plain of Lombardy; while the upper town, still girt with its ancient ramparts, now converted into public walks, crowns a hill above 500 ft. above the plain, midway between the rivers Serio and Brembo. The higher hill of the Castello (now in ruins), about  $1\frac{1}{2}$  m. from the town, commands a remarkable view, which extends in fine weather to Monte Rosa, Monte Viso, and the chain of the Apennines. In the upper town are the Church of Santa Maria, with a remarkable chapel of the Colleoni family; the Duomo, not very interesting; the Palazzo Vecchio, or Broletto, and the unfinished Palazzo Nuovo; besides many fine houses belonging to the principal families of this part of Lombardy.

A good road leads from Bergamo through the lower half of *Val Seriana* as

far as *Ponte di Nossa* (about 1,650'), a distance of about 18 miles. The first village in the valley is *Alzano Maggiore* (564'), where there is a good country Inn. About 12 m. from Bergamo, a short lateral valley opening to the E. is traversed by a paved track leading to *Gandino*, a large village, where the naturalist wishing to explore the lower mountains of this district finds good accommodation. N. of the village rises the *Pizzo Formico* (5,171'). Soon after passing *Ponte di Nossa*, the road leading to *Clusone* and the *Lago d'Iseo* (§ 39, Rte. C) leaves the Serio to traverse the low ridge on the E. side of the valley. In the opposite direction, the *Monte Albeno* (6,706'), and *Monte Arera* (8,255') are the most conspicuous points in the range dividing the Serio from the Brembo. Between them is a pass leading to *Val Brembana* by *Zambla*. The principal track leading to the head of *Val Seriana* keeps nearly due N. along the rt. bank, passes *Gromo*, and at *Fiumenero* (1,972') turns to the rt., until its direction is but little N. of E. At the last-named village, a torrent descends to the Serio from a recess in the principal range of the Lombard Alps between the *Monte Redorta* (9,980') and *Pizzo del Diavolo* (9,574'). Immediately on the E. side of the latter peak, which must not be confounded with another summit of the same name lying farther E., is the *Passo del Salto*, leading to *Sondrio* by the SE. branch of *Val Ambria* (Rte. B).

The valley of the Serio is sometimes called *Val Bondione* above a village of that name, which is the highest passed on this Rte. The scenery here becomes quite alpine in character, as the track, mounting on the l. bank of the Serio, approaches a group of waterfalls said to be the finest in this part of the Alps. The principal fall, called *Cascata del Barbellino*, is over 200 ft. in height; and above it are two others, remarkable for the mass of water that breaks over the ledges of conglomerate rock. Above the falls is an upland glen called

*Val Barbellino*, where the Serio is formed by the union of many torrents from the surrounding peaks, most of which approach, though they do not quite attain to, the height of 10,000 ft. Near a small tarn called Lago Barbellino, the botanist may gather *Viola Comollia*. Several passes, all of them high and steep, lead across the range into Val Tellina. The most direct way to Sondrio is by a track mounting near the waterfall to a gap in the ridge between the *Pizzo di Cocca* (9,705') and the eastern *Pizzo del Diavolo*. The way to Tirano lies farther E., and passes on the W. side of Monte Torena, traversing a small glacier, and descending through the *Val Caronella* to Tresenda, on the high road from Sondrio to Tirano, where the road to Edolo over the Aprica Pass leaves the Adda. See § 36, Rte. E.

### ROUTE B.

#### BERGAMO TO SONDRIO, BY VAL BREMBANA.

The valley of the Brembo does not offer any scenery so wild and striking as that of the head of Val Seriana; but many of its lateral branches lie between mountains that rise boldly to a height of about 8,000 ft., and would perhaps be preferred by a painter to the sterner recesses of the central ranges of the Alps. The tourist who will devote some days to the valley is certain to find many sites little if at all known to any but the natives.

The road leaves Bergamo by the NW. end of the lower town, passing on the N. side of the old city, and in about 5 m. reaches the banks of the Brembo. One road crosses the river to *Almenno* (863'), a village with a good inn, lying on the l. bank, near the opening of *Val Imagna*. By that valley the pedestrian may reach *Lecco*, passing over the ridge of the *Monte Resegone* (6,165'), which rivals the

*Campione* (Rte. E) for the number of rare plants that have been found on its craggy pinnacles. A local guide should be taken. The traveller bound for the head of Val Brembana should not cross the river at Almenno, but take the road to the rt., which, after passing Botta and Sedrina, traverses the Brembo higher up, about 1½ m. before reaching *Zogno* (1,158'). This is the best stopping-place in the lower part of Val Brembana. There is also a tolerable inn at *S. Pellegrino*, about 2½ m. higher up, near the foot of *Pizzo Regina* (4,885'). The scenery improves as the traveller ascends the valley, keeping to the rt. bank above Zogno. To the W. is the opening of *Val Talleggio*, by which the pedestrian may reach *Introbio* in Val Sassina (Rte. E). On the N. side of that glen, the *Aralia* (6,585') rises very boldly, and though of such moderate height is a conspicuous object. The two main branches of the Brembo unite at *Lenna* (1,804'), which is but ½ m. from *Piazza*, the principal village of the upper part of the valley. Here the traveller bound for Sondrio leaves the road, about 23 m. from Bergamo, and follows the NE. branch, which preserves the name of Val Brembana. A path along the rt. bank passes opposite to *Trabucchetto*, at the W. base of Monte Corte (8,340'), and soon after reaches *Branzi* (2,178'). This village would be the best stopping-place for a botanist, who will find very many objects of interest in the neighbourhood. Among other rare plants, *Alnus Brembana* is common on the slopes of schistose rock above the valley.

The traveller has a choice of several passes leading from Branzi to Sondrio. Probably the most interesting is that which is reached by following the Brembo to its head at a small lake called Lago del Diavolo (2,556'). A track leads from thence over a pass lying due N. into the SW. branch of *Val Ambria*, one of the chief of the southern valleys of Val Tellina. It is famous for the excellence of its butter,

which has been ascribed to the prevalence of *Sanguisorba dodecandra*, a plant peculiar to this and one or two neighbouring valleys. It is best to keep to the path along the l. bank, and descend to *Faedo*, whence Sondrio is easily reached by a bridge over the Adda due S. of the town.

Another way from Branzi, rather shorter than that by Val Ambria, is by a pass on the E. side of the *Corno Stella* (8,845'). This leads into the head of *Val del Livrio*, which opens into Val Tellina at *Cajolo*, about 1 hr. from Sondrio.

A third and more circuitous way is by a pass on the W. side of *Corno Stella*, leading to the head of *Val Cervo*. The lower part of that valley is a narrow gorge; and the path is carried at a great height above its rt. bank, till it finally descends to *Cedrasco*, near the junction of the torrent with the Adda.

All the above passes are reached from the main branch of Val Brembana, which mounts ENE. from Branzi. At that village a torrent joins the Brembo from NNW., issuing from a lateral valley connected with Val Tellina by two passes, one of which is certainly easier and probably more direct than that last noticed. The way lies by *Valleve* and *Foppolo*, the highest village on the S. side of the pass, and then mounts to the ridge east of *Monte Cadelle* (8,301') overlooking the head of *Val Madre*. A well-marked path leads down that valley to *Fusine*, about 1 m. W. of *Cedrasco*, near a bridge over the Adda, by which the traveller attains the high road about 7 m. below Sondrio.

[At the head of the branch of the valley NW. of Valleve is *Cambrembo*, or *Capo Brembo*. A pass lying due N. of that village leads into the SE. branch of the Val di Tartano, which enters Val Tellina about 4 m. E. of Morbegno, and this would afford the most direct way from Branzi to that town. There is another pass from *Cambrembo*, keeping to the S. side of

the principal range, but N. of *Monte Cavallo* (7,671'), by which the track of the Passo di San Marco (Rte. C.) may be reached from Branzi.]

## ROUTE C.

### BERGAMO TO MORBEGNO, BY THE PASSO DI SAN MARCO.

The way here indicated is by far the easiest and the most direct for a traveller wishing to reach Val Tellina from Bergamo. By starting early in a light char, or *calessina*, an active traveller might reach Morbegno on the same day. It was said in Rte. B, that at Lenna, very near Piazza, the Val Brembana meets an important lateral valley whose torrent descends from NNW. The char-road is carried up that valley to *Olmo* (1,877'), a small village standing near the point where the stream of the Stabina, descending from the W., unites with those issuing from two short nearly parallel glens that open N. of Olmo. The easier way to the pass is by the easternmost of these glens, passing the village of *Averara*. Keeping to the rt. at the head of the glen, a frequented bridle-track leads to the *Passo di San Marco* (5,997'), probably the lowest in the range dividing Val Brembana from Val Tellina. The pass lies SW. of the *Monte Azzarini* (7,976'), and leads down into Val d'Orta, one of the branches of *Val del Bitto*. Passing *Albaredo*, the traveller descends to Morbegno in about 4 hrs. from the pass.

## ROUTE D.

## PIAZZA TO MORBEGNO, BY VAL STABINA—PIZZO DEI TRE SIGNORI.

The *Val Stabina*, which opens due W. near Olmo above Piazza (see last Rte.), offers to the mountaineer a much more interesting but longer way to Morbegno than that by the Passo di San Marco. The head of the valley leads to Introbio in Val Sassina (Rte. E) by an undulating plateau, called Monte Bobio, about 5,000 ft. in height. Two or three lateral glens enter Val Stabina from the N. The westernmost of these is reached above a hamlet called Valtorta, and a rough track mounts through it, first by the E. side, then by the W. bank, and finally up a steep and bare slope above the l. bank of the torrent, which is nearly dry in the height of summer. This leads to a hollow in the mountain range, where a chalet, or *baita*, is inhabited for a short time during the fine season. Cattle-tracks, and paths connected with mines that have been worked at various times in this neighbourhood, tend to confuse the stranger; but as soon as he gains a sufficient height, he finds that all the ridges converge towards one bold summit, which owes the name *Pizzo dei Tre Signori* to the fact that it stands at the meeting of several valleys once belonging to three distinct territories, and now to three provinces of Lombardy. On the S. side it overlooks the glen here described, and another tributary of the Bergamasque Val Stabina; on the W. is the head of Val Biandina, a tributary of Val Sassina in the province of Como, while the N. side of the mountain is drained by one of the branches of Val del Bitto. The S. side of the peak is extremely steep, and time would be lost by attempting to scale it on that side. A far better course is to reach the SW. shoulder of the mountain, where a good track is carried along it, overlooking the head of Val Biandina, and a small

lake—Lago di Sasso—lying at a great depth below the pass. The best way to the Pizzo dei Tre Signori is by a hollow to the rt. of the path, where snow lies through a great part of the summer. The ascent is rather steep, and a little step-cutting may be required, until the ridge is reached which extends northward from the peak, between the head of Val Biandina and a deep hollow, connected with the Val del Bitto, and dividing the Pizzo dei Tre Signori from the adjoining summit of the Pizzo di Trona. A small lake lies in the hollow, in which snow lay deep on the 19th July, when the writer passed this way, and the lake was completely frozen over. The summit of the Pizzo dei Tre Signori commands a very extensive and interesting panoramic view of the Bernina, the Monte della Disgrazia, and the peaks enclosing Val Masino, to the N., and of the Lepontine Alps and Monte Rosa to the NW. and W. In the opposite direction a portion of the Orteler group comes into view, but the Adamello range is in great part concealed by the Redorta and the adjoining high mountains at the head of Val Seriana. A small portion of the Lake of Como, between Argegno and Balbianello, comes into view. The summit is a few feet higher than the Legnone, or about 8,600 ft. in height. *Androsace Charpentieri*, *Artemisia spicata*, *Eritrichium nanum*, and other rare plants, are found on the highest ridge of the mountain. The coarse conglomerate forming the peak contains fragments of mica-schist, gneiss, and other crystalline rocks.

There appears to be no difficulty in descending into the snowy hollow above mentioned, which would lead the traveller down to the head of Val del Bitto; but it is a more agreeable way to follow for some distance the northern ridge of the mountain, where the botanist will be rewarded by many interesting plants. On descending to the lake which lies at the lower end of the hollow, the traveller may hit upon



a track connected with an abandoned mine. He leaves to the l. a faintly-marked path leading over the *Passo di Trona* to the head of Val Varrone (Rte. G). The *Val di Bitto* is an extremely picturesque glen, containing several scattered hamlets, and produces cheese of superior quality. The highest group of houses is called Gerola, and in 3 hrs. of rather rapid descent the traveller may reach *Morbegno* (§ 36, Rte. E).

## ROUTE E.

## LECCO TO BELLANO, BY VAL SASSINA.

The beautiful valleys whose torrents flow into the Lake of Como by its E. shore are more easily visited from that lake than from Bergamo; but the mountains that enclose them belong to the outlying members of the range of the Lombard Alps, and they could not well be described elsewhere than in this place. The most considerable of these valleys is *Val Sassina*, a deep and broad depression which almost isolates the remarkable range of crystalline limestone lying E. of the Lake of Como. The upper portion of Val Sassina consists of a rather wide undulating plateau, about 1,500 ft. above the level of the Lake of Como, extending from near the village of Ballabio above Lecco to the N. of Introbio. The streams that reach this plateau are united in the *Pioverna* torrent which flows NW. to Bellano. The descent from the plateau towards Lecco is very rapid. There is now a good road on that side, which is open to Introbio, and about 2 m. farther; but the old road down the valley towards Bellano is scarcely passable for wheeled vehicles, and in its present condition can be used only on foot or on horseback. The way from Lecco to Bellano affords a very pleasant excursion for persons who fix their head-quarters on the lake, but the path described in the next Rte. affords a still more agreeable way to

Introbio. The mountains on the E. side of Val Sassina contain some valuable mines, the most important of which is noticed below, and the geologist and mineralogist will find abundant occupation in the valley. It would be difficult to name any station in the Alps where the botanist can collect a richer harvest of rare plants, and a few days may well be devoted by him to making excursions from Introbio, where there is now a comfortable Inn. The Campione, which produces the rarest and most beautiful of the plants noticed below, may be visited in one long day from Lecco, and the Grigna may be reached from Varenna or Mandello; but Introbio is to be preferred as a centre. The following short list includes only the species which are likely to be of especial interest to the botanist already familiar with the Swiss Flora. To those which are confined to particular spots the names of the mountain on which they have been found, and, in some cases, the approximate height, is affixed within brackets. The Resegone has been included as a station for some species, though it forms a separate excursion from Lecco:—

- Aquilegia Bertolonii*.
- Papaver pyrenaicum* (Grigna, 7,800').
- Arabis pumila* (Campione, Resegone).
- Barbarea bracteosa* (Monte Bobio, Resegone).
- Viola heterophylla* (Campione, Resegone).
- Silene Elizaetha* (Campione, 6,000').
- Mehringia Thomasiana* (Campione, Grigna).
- Cytisus glabrescens*.
- *purpureus*.
- *radiatus*.
- Saxifraga Vandellii* (Campione, Resegone).
- *sedoides* (Campione, Grigna).
- *mutata* (Campione, Resegone).
- Laserpitium peucedanoides*.
- *nitidum* (Campione, Resegone).
- Scabiosa graminifolia*.
- Telekia spectiosissima*.
- Achillea Clavennæ*.
- Senecio cordatus*.
- Crepis Jacquinii* (Campione).
- Hieracium porrifolium*.
- Phyteuma comosum*.
- Campanula spicata*.
- *Rainieri* (4,000' to 7,000').
- *clatnoides* (Monte Bobio, Resegone).
- Betonica Alopecurus*.
- Primula glaucescens* (5,000').
- Euphorbia variabilis* (3,000 to 4,500').
- Allium pedemontanum* (Campione).
- Carex baldensis*.
- Glyceria spectabilis* (Monte Bobio).

The road to Val Sassina mounts through a busy suburb of Lecco, where a slender stream is employed to work silk spinning-wheels and other machinery. After escaping from the houses, the road crosses the stream, and the ascent is steep and almost continuous for rather more than 1 hr., when the lower of the two hamlets, called *Ballabio*, is reached. The ascent of the *Campione* may be commenced here, but not without a local guide, as a stranger starting from this side is almost certain to be involved in difficulties. It is better to follow the road about two miles farther. A short way beyond *Ballabio* the summit level is reached, and the road is carried over the plateau forming the head of Val Sassina, and lying between the limestone range of the *Grigna* on the l., and the lower range, chiefly formed of conglomerate, on the rt. side. The *Grigna* range includes two principal summits. The highest is the mountain generally known by that name, but also called *Monte Codeno*, or *Grigna Septentrionale*, to distinguish it from the southern summit, or *Grigna Meridionale*, properly called *Campione*. The *Grigna* attains 7,908 ft.—the *Campione* 7,158 ft. Both these peaks show towards the Lake of Como a very bold front, with towers and precipitous walls of rock rising in tiers. The *Campione*, which appears inaccessible from every other side, is easily reached from the head of Val Sassina, by a long, but not very steep slope. It is best to keep a direction somewhat N. of the highest peak, and then turn to the l. till the summit is attained. This is formed of successive teeth of rock, divided by deep gaps. A little scrambling is necessary to reach the point where a stone man has been erected, and then the traveller is divided by a cleft from the last and highest pinnacle of rock, which has not been attained, but may probably be achieved by a skilful cragsman. The ascent of the *Grigna* from the head of Val Sassina involves a long and mono-

tonous climb up a steep unbroken slope, till the ridge is reached a short way from the highest point. To the naturalist as well as the ordinary traveller, the ascent from the opposite side (Rte. F) is much more interesting.

In 2½ hrs. in a carriage, 3 hrs. on foot from Lecco, the traveller may reach *Introbio* (Inn: Alb. delle *Miniere*, new, clean, and reasonable), a thriving village, which the traveller may make a centre for many excursions. Besides the ascent of the *Campione*, above noticed, the geologist or botanist may visit the mine of *Valbona*, situated a short way below the summit of the *Cima di Cam*, at fully 6,500 ft. above the sea. The resident director of this and other mines worked in the neighbourhood is Signor Arrigoni, Syndic of *Introbio*. A naturalist wishing to explore the high valleys that converge towards the *Pizzo dei Tre Signori*, and to ascend the peak, should apply to that gentleman for permission to pass the night at a house close to the principal mine, which contains two good beds, sometimes required for the use of directors or managers. The pass to Val *Brembana* over the ridge of *Monte Bobio* is not very interesting in point of scenery, but the botanist will find several curious plants on the rocks rt. of the regular track. The way to the head of Val *Varrone* is noticed in Rte. G.

The new road is carried about 2 m. beyond *Introbio*; but after that point the old road, never good, has become almost impassable, having been partly carried away by inundations of the *Pioverna*. The stream is crossed near *Cortabbio*, and soon after passes *San Pietro* and *Cortenova*. A little farther is *Tartavalle*, where a mineral spring attracts a few water-drinkers. To this point the slope of the valley has been very gentle, but a little below *Tartavalle* the *Pioverna* begins to fall rapidly through a defile which it has cut through the triassic rocks. The scenery is extremely picturesque. By bearing to the l. the traveller may go

to Regoledo (§ 33, Rte. B) without descending to Bellano. By the track which keeps to high ground on either bank of the Pioverna, he will reach Bellano (Inn: Alb. della Torre), described in § 33, Rte. B.

### ROUTE F.

#### VARENNA TO INTROBBIO—ASCENT OF THE GRIGNA.

The little glen of Esino, by which the traveller may reach Val Sassina from Varenna, and which affords the easiest way for ascending the Grigna, is one of the most charming of those retired nooks which abound in the mountains about the L. of Como, and well rewards those who make it the object of a short excursion from Varenna (see § 33, Rte. B). The only drawback is the intense heat to which the traveller is exposed who ascends from Varenna after the sun has begun to telf upon the slopes above that village. The ascent of the Grigna from that place is an excursion long enough to make it expedient to start at a very early hour; but even without that motive it is advisable to start betimes.

The track mounts from Varenna on the N. side of the rock on which stand the ruins of the castle, and then keeps on the ridge above the l. bank of the torrent, commanding at intervals beautiful views over the lake. On the opposite side of the glen is *Perledo*, interesting to geologists for the remarkable fossils of the triassic period found in adjoining quarries. After a moderate ascent, the track is carried at a level along the SW. slope of the valley, gradually approaching the stream, which is crossed a short way below the poor village of *Esino*. In pursuance of a local regulation, the curate or *capellano* of the village is bound to keep two beds for the accommodation of strangers; and this is convenient for a naturalist who desires to have sufficient

time for the exploration of the Grigna. There is here a track leading SSW. over one of the spurs of the Grigna to the shore of the lake N. of Olcio. Above Esino the track to Val Sassina returns to the l. bank, and mounts through a delightful glen presenting the perfection of park scenery, where the traveller may find his way over soft turf under the shade of noble chestnut trees. The higher summits of the Grigna are not in view, or else the scene might rival the choicest spots of the Italian Tyrol. Near the head of this recess there is a path to the rt. leading to the head of the Neria torrent, which flows SSW. to the Lake of Como by Mandello, and another, faintly marked, which is followed in the ascent of the Grigna. The main track to Val Sassina keeps an easterly direction, passing near to a châlet at the head of the glen, where milk may be obtained. A short ascent leads thence to the summit of the ridge forming the *Cainallo Pass* (about 4,000'). The scenery on the Val Sassina side is bolder, though not more beautiful than that passed in the ascent. Some of the shattered pinnacles of the Grigna rise to the rt., while the path winds for some way amidst steep rocks, and then descends by zigzags the steep slope towards the valley. The beaten path leads to Cortenova; but the mountaineer who has no objection to rough ground may shorten the way to Introbbio by making his descent to San Pietro. Fully 2½ hrs. are required to reach that place from Varenna, and nearly 1½ hr. will be employed on the way thence to Introbbio (see last Rte.).

The easiest and at the same time the most interesting way for the ascent of the *Grigna* (7,908') follows the course above described nearly as far as the head of the glen of Esino. Mounting nearly due S., amid stunted brushwood, the traveller soon reaches a ridge which commands a view of a considerable hollow, or recess, running deeply into the mass of the Grigna. He will find a narrow but easy path

that ascends very gently round the W. side of this hollow, ultimately reaching its S. end, which lies at no great distance below the highest ridge of the mountain. A rather steep ascent leads past a miserable hovel which serves as lodging for one or two shepherds, who pasture a few sheep and goats on the nearly bare rocks. Continuing to ascend, the traveller reaches a hollow in the mountain containing a large accumulation of snow, which never completely melts even in the hottest summer. It is spoken of by some local writers as a glacier; but the snow is in the condition of *névé*, rather than that of true glacier-ice. Near this the botanist may gather *Papaver pyrenaicum*. The mountaineer will have no difficulty in making his way to the highest ridge of the mountain, and to the highest point which lies near the S. end of the ridge. The panorama is very extensive, and includes a great part of the valley of the Po, bounded by the Apennines of Parma and Modena; but the Lake of Como does not unfold itself so fully as might be expected. The projecting spurs and lower terraces of the mountain conceal a great part of it from view.

It appears to be possible to descend from the ridge close to the summit towards Mandello through one of the branches of Val Neria; but the way is certainly very steep, and may be impracticable. A much easier way is to return a part of the way taken in the ascent, and then descend to Mandello by the head of one of the main branches of the Neria.

## ROUTE G.

MORBEGNO TO BELLANO, BY VAL VARRONE.

In the description of the E. shore of the Lake of Como (§ 33, Rte. B) allusion was made to the *Varrone*, a considerable torrent that enters the lake close to Dervio. It drains a valley parallel to Val Sassina, but far less frequented. It is strange that nearly all the communication between the middle and upper part of this valley and the Lake of Como should be through Bellano, over the ridge separating the two neighbouring valleys, rather than by the natural line of descent to Dervio. The ground is so difficult, and the path so rough and hilly, that the time requisite for descending to Dervio is considerably more than that sufficing to reach Bellano; and it is said that in one part of the valley the frequent fall of stones from the flanks of the Legnone makes the path somewhat dangerous. The traveller approaching the L. of Como from Morbegno may take an unfrequented but interesting way through Val Varrone, and by giving a second day to the excursion will have time to make the ascent of the Legnone. There is a path from Pedesina in Val del Bitto by which one branch of Val Varrone is reached directly over a pass lying a little S. of W. from that hamlet. Those who wish to see something of the fine scenery at the head of Val del Bitto will prefer the *Passo di Trona*, leading to the head of the main branch of Val Varrone. This is not very attractive in point of scenery; but several rare plants, such as *Cardamine asarifolia*, *Androsace argentea*, and, lower down in the valley, *Barbarea bracteosa*, reward the botanist for his visit. After descending into the head of the valley, a level tract of alpine pasture extends for more than a mile; and soon after this terminates, the traveller unexpectedly finds a good road in an uninhabited and seemingly deserted valley. It has been made with

a view to mining operations which are at present carried forward lower down. The scenery becomes more interesting as the road descends two successive steps, passing from the l. to the rt. bank, and a portion of the ridge of the Legnone begins to show itself above the nearer slopes. Should the traveller wish to go directly to Bellano, he must follow the road which returns to the l. bank, and about 2 m. lower down begins to ascend towards a depression in the ridge dividing the Varrone from the Pioverna. Towards the summit of the ridge he gains a fine view of the Legnone, and then follows the road across a nearly level plateau whereon stand three or four villages, the chief of which is *Margno*. He then crosses to the rt. bank of an affluent of the Pioverna, and ascends gently for some distance till he finds himself in Val Sassina, on a well-made track, at a great height above the course of the Pioverna, commanding beautiful views. At last a steep and long descent by a rough paved track leads down to Bellano.

If the traveller descending Val Varrone from the Passo di Trona should intend to halt at Premana, probably the best quarters in the valley, he must be careful not to follow the road at the point where it returns to the l. bank of the Varrone. About 5 min. above the bridge, where the road begins to descend rapidly, a faintly-marked path turns to the rt., and is carried for some distance along the steep slope of the mountain, gradually ascending, and attaining a great height above the torrent, till it reaches the village (Rte. H).

### ROUTE H.

#### INTROBBIO TO COLICO—ASCENT OF THE MONTE LEGNONE.

The traveller who has undertaken to explore the valleys on the E. side of the Lake of Como will not be content

to omit the ascent of the highest of the adjacent peaks, whose bold pyramidal form is so remarkable from most parts of the lake. This is the well-known *Monte Legnone* (8,568'), lying in the range dividing Val Varrone from Val Tellina, and forming the western termination of the principal range of the Lombard Alps. Under favourable conditions the view is of the highest interest, and the expedition may be strongly recommended to the mountaineer who can spare two or three days when in this neighbourhood. It is not, indeed, impossible to make the ascent from Colico and return on the same day to that place; but it is a much better arrangement to ascend the mountain from the side of Val Varrone. The ascent may be combined with an excursion in Val Sassina and the neighbouring valleys by one or other of the courses here suggested.

The easiest way from Introbbio to Val Varrone is to follow a track on the rt. bank of the Pioverna from Cortabbio to Bindo, and then ascend gently to Margno. The way then lies by the road mentioned in Rte. G., which, after passing Sommadino, begins to descend towards the Varrone. On the opposite side, and at a great height above that torrent, are seen two villages. That lying immediately opposite, and at the base of a ridge that extends to the peak of the Legnone, is *Pagnona*. To the rt., and separated from Pagnona by a deep ravine that penetrates far into the range of the Legnone, is *Premana*, where rather rough but very tolerable quarters are found at a village inn kept by Malugani. To reach the one or the other of these villages, it is necessary to cross the Varrone, and make a long and steep ascent. Pagnona offers the more direct way to the summit; but the course by Premana, noticed below, is perhaps the more interesting.

A second way from Introbbio is by a track running nearly due N. through the *Val Biandina*, which keeps the same direction when the head of that

valley turns towards the Pizzo dei Tre Signori, and leads over the ridge dividing it from Val Varrone, which is reached nearly 2 hrs. above Premana.

A third route from Introbio, more interesting to the mountaineer than the above, is to take the Pizzo dei Tre Signori in the way to Premana. For that purpose, it is best to go by the mine of Valbona, and then to reach the W. base of the peak, mainly by following the ridge overlooking the head of Val Biandina. The way would then lie by the lake at the upper end of Val del Bitto and the Passo di Trona. (See Rtes. D and G.) This would be a hard day's work if taken from Introbio, but a moderate day from Valbona, if the traveller should be able to sleep there.

The ascent of the Legnone from Pagnona is along the southern ridge of the mountain, and is probably the easiest way of reaching the summit. The course from Premana is along the E. side of the wild glen or ravine that separates that village from Pagnona. Towards the head of this glen the traveller reaches a group of chalets, and continuing the ascent with scarcely a trace of path, attains to a little tarn surrounded by dark rocks, which often remains frozen till late in the summer. Keeping well to the l. round a projecting buttress in the mountain, a rough and slightly-marked track leads to a pass or gap overlooking Val Tellina. This pass, called *L'Uscio* (?), is reached in 3½ hrs. from Premana, and the traveller may descend from it in 3 hrs. to *Delebio*, half-way between *Morbegno* and *Colico* (§ 36, Rte. E).

The way to the summit of the Legnone is along the ridge to the l. of the pass. This is steep, a good deal broken, and in places requires some care. The writer encountered bad weather, and did not complete the ascent, but has no doubt that the views gained from the time that a traveller reaches the ridge must be extremely fine. It would be possible to descend from the summit direct to

*Colico*, and it would also be easy to reach *Morbegno* from the *Uscio* Pass, following the *Lesina* torrent down to the high road at *Delebio*.

## SECTION 39.

### VAL CAMONICA DISTRICT.

THERE is no one of the greater valleys of the Alps that has been so unaccountably neglected by foreigners as the Val Camonica. Allowing the pre-eminent attractions of the three great Lombard lakes, it is remarkable that strangers entering Italy from the Tyrol are not oftener tempted to select a route which will lead them through scenery grander than that of many of the more famous alpine passes, and after the usual gradual transition to southern climate and vegetation, enters the plain of Northern Italy after traversing a lake which ranks next after those that draw visitors from every part of Europe. The lateral valleys of Val Camonica abound in scenery of the wildest character, but are as yet scarcely known even to men of science.

In the present district are included the main valley and the mountain district lying between it and the *Serio*. The high mass of snowy mountains whose best known summit is the *Adamello*, lying E. of the head of Val Camonica, is described in the next section; but the Val Trompia, N. of *Brescia*, and the ranges between Val Sabbia and the *Oglio*, are more conveniently comprised in the present division of this work.

The natural division between the *Adamello* group and the ranges enclosing the *Brescian* valleys nearly correspond with the track from *Breno* to *Bagolino* by the pass of *Croce Domini*.

There are fair country Inns at *Loovere*, and at *Breno*, in *Val Camonica*,

and at Gardone and Bovegno in Val Trompia; but tolerable accommodation for a mountaineer may be found at many other places lying higher, and better situated for exploring the alpine valleys of this district.

## ROUTE A.

MALE IN VAL DI SOLE TO BRESCIA,  
BY THE TONALE PASS AND VAL  
CAMONICA.

	Italian miles	Eng. miles
Pelizzano . . .	8	9
Ponte di Legno . .	12	14
Edolo . . .	12	14
Breno . . .	16	18½
Pisogne . . .	14	16½
Iseo . . .	12	14
Brescia . . .	13	15
	87	100½

A road in great part new, but rough in places, leads from the Tyrol to Brescia, so that travellers reaching Val di Non by the road from San Michele (§ 37, Rte. B), or by any of the mountain passes described in the same section, may enter Italy by this route without the slightest difficulty or fatigue. Travellers who would combine this part of the Alps with the Bernina range, or the fine scenery at the head of Val Tellina, without crossing the Austrian frontier, may reach Ponte di Legno from Sta. Catarina by the Gavia Pass, or follow the carriage-road over the Aprica Pass from Tresenda in Val Tellina to Edolo.

As far as Fusine, a hamlet about 1 m. above Pelizzano, the way from Malè to the Tonale Pass is the same as that leading to Bormio (§ 37, Rte. B). At that place the new road of the Tonale follows the branch of Val di Sole, called *Val Vermiglio*, in a nearly direct line WSW. to the Tonale Pass. Val Vermiglio forms a deep trench at the N. base of the granitic range of the Presanella (§ 40), whose W. extremity is formed by the Monte Piscanno. Three hamlets are passed, of which

the highest, properly called *Pizzano* (4,192'), but often styled *Vermiglio*, has a decent inn, and the frontier custom-house. Beyond this the road mounts the slopes on the N. side of the valley, and after passing under a new Austrian fort, attains the summit of the *Tonale Pass* (6,483'). Opposite the fort the *Val Presena* opens to SE. an admirable view of the Presanella, whose highest peak was first reached from this side in 1864 (see § 40, Rte. A). A chapel and a poor inn stand very near the top of the pass, but the hospice has been left quite on one side in making the new road. The slopes and rocks of Monte Tonale, N. of the pass, produce many rare plants, of which the following deserve to be specially noted:—*Ranunculus Seguieri*, *Oxytropis Halleri* and *O. Gaudini*, *Potentilla camonia* (of Rota), *Saxifraga planifolia* and *S. stenopetala*, *Pedicularis asplenifolia*, *Primula integrifolia*, *P. glutinosa*, and *P. minima*; *Orchis Spitzelii*; *Carex pulicaris*, *C. pauciflora*, *C. microglochis*, *C. bicolor*, *C. aterrima*, and *C. fuliginosa*, *Avena subspicata*, and *Poa sude-tica*.

The new military road comes to an end at the summit of the pass, and the descent on the Italian side is by the old narrow and steep road, fit only for light vehicles. The head of Val Camonica is reached at *Ponte di Legno* (4,234'), with a poor, dirty, and dear inn. The position is tempting to the mountaineer, as several alpine paths meet here. The Gavia Pass, leading to Sta. Catarina, is noticed in Rte. F, and the passes to Val di Genova, in § 40, Rte. B. It is most probable that the Monte Adamello (§ 40) is accessible by the Val delle Susine, which opens to the S. from Ponte di Legno, and by the Vedretta di Narcane at its head. The attempt is worth a trial. About 1 hr. below Ponte di Legno, near Pontagna, the *Val di Avio* opens to the S., leading to a rather large alpine lake lying E. of the peak of Mte. Avio. It would probably be practicable to cross the ridge S. of the lake, and descend by

the SE. side of the *Corno della Granaie* (10,298') into Val di Malga, a glen that enters Val Camonica at Rino, about 3 m. below Edolo. The high road descends rather rapidly along the Oglio from Pontagna to *Veza*, where a track leads N. through Val Grande, gains the ridge NNE. of the *Monte Serrotini* (9,616), and some other summits of nearly equal height, and then descends westward to Mondadizza, below the defile of Morignone (§ 36, Rte. E). About 3 m. lower down the Oglio, another path leads to *Grosio*, in Val Tellina, by the easier pass of Mortirolo.

*Edolo* (Inns: Leone, tolerable; Due Mori, bad and dear), is the chief place in the Upper Val Camonica, 2,293 ft. above the sea. For the Aprica road to Tirano, see Rte. E. A post-carriage plies daily to Brescia. A little above Edolo, the Oglio bends to the S. and traverses a cleft, or *cluse*, through the axis of the Lombard Alps, thenceforward following a SSW. course, parallel to that of the Serio, the Chiese, the Lake of Garda, and the Adige. About 1 hr. below Edolo is the opening of *Val di Malga*, a glen running up to the very base of the Adamello, see § 40, Rte. B. Nearly 2 hrs. farther is *Cedegolo* (with a good country inn kept by Perroletto), at the opening of *Val Savio*, which unites the streams from two glens that run deep into the Adamello range. The westernmost is *Val di Brate*, closed at its head by the *Vedretta di Salarino*, while farther E. is the *Val di Adame* leading to the *Vedretta di Adame*. It is easy to cross the ridge dividing the latter glen from the head of Val di Fum, but the way to Val Daone is by a track that mounts to SE. from the hamlet of Isola, and passes the Lago d'Arno. See § 40, Rte. C. At Cedegolo the high road crosses the Oglio, leaving on the opposite side *Grevo*, but it returns to the l. bank at

*Capo di Ponte* (1,345'), where there is a poor Inn. Here a mule-track turns eastward, and leads over a low ridge to Schilpario in Val di Scalve (Rte. D).

*Breno* is the principal place in the lower part of Val Camonica, picturesquely placed on a rock in the middle of the valley. It has an Inn (*Pellegrino*) offering fair accommodation, but the position is low and hot. Several glens, the longest of which is *Val Pallobia*, enter the valley from the E., and give access to the range of bold granitic peaks extending S. from the Monte del Castello. The nearest to Breno are the *Monte Blumone* (9,321') and *Monte Frerone* (8,676'). A track that passes by *Pescarzo* is the shortest way to the Croce Domini Pass (Rte. G). Below Breno the road to Iseo and Brescia keeps to the rt. bank of the Oglio, till, at the junction of the torrent from Val di Scalve with that river, it leaves the road of the rt. bank which extends to Lovere, and traverses the alluvial flat on the l. bank to Pisogne near the influx of the Oglio into the *Lake of Iseo*. Without attempting to place this lake on a level with the three great Lombard lakes, nor even with that of Lugano, it may fairly be said that its attractions have not had a fair share of notice from travellers. The length, allowing for its somewhat sinuous form, is about 17 m.; and its breadth approaches 2 m., except at the middle, where it widens out, and the space is occupied by a large rocky island. Though the mountains rise in gentle slopes above the shores, some of them attain a considerable height, and the *Monte Guglielmo*, SE. of Pisogne, reaches 6,274 ft. The surface of the lake is 627 ft. above the sea, and its depth about 700 ft. A frequented road leading to Iseo and Brescia runs along the E. shore, where there are many villages and hamlets; the opposite side is comparatively deserted, though it offers many fine sites, and two or three proprietors possess villas on that bank. The chief communication on the lake is by steamer. In 1862 the steamer left Lovere about 4 A.M., reached Iseo about 5, and then went in about  $\frac{3}{4}$  hr. to Sarnico. In returning, it started from Sarnico at



10 A.M., called at Iseo at 10.45, and then went to Lovere.

The writer, in place of a 'tidy Inn by the water-side,' spoken of in a work of authority, found the Vapore at Iseo to be miserable and filthy, about the worst he has ever encountered in the North of Italy. The position of Iseo is interesting to the geologist. The remains of the ancient moraines of the Oglio are very extensive. This neighbourhood has been well examined by M. G. de Mortillet, whose views as to the origin of Alpine lakes are referred to in the Introduction (art. Geology). The olive grows freely on the slopes surrounding the lakes, and in some sheltered spots orange and lemon trees ripen their fruit. *Campanula sibirica*, and other interesting plants, may be found on a rocky knoll crowned by a ruined castle a little E. of the village of Iseo. Besides the diligence for Edolo, omnibuses ply twice a day between Iseo and Brescia. The road runs through a fertile country, with pleasing views of the wooded mountains that form the southern extremity of the range dividing the valley of the Oglio from Val Trompia, to

*Brescia* (Inns: Albergo d'Italia; Regina d'Inghilterra; Gambaro; besides many second-rate houses), a fine city that has twice expiated by frightful suffering the patriotic spirit of its inhabitants. Its capture by the French in the 16th century was signalised by atrocities that even in that age surpassed the license of military violence; and in our own day it has supported from the Austrians a bombardment that caused needless devastation, whose traces are not yet effaced. The Museo Patrio, containing a famous bronze winged statue of Victory, with many other Roman antiquities, occupies the interior of a very interesting building originally surrounded by Corinthian columns, erected or restored by Vespasian. The ancient cathedral, or Duomo Vecchio; the Duomo Nuovo, conspicuous for its large cupola, and many other churches, some of them of

high antiquity, deserve the traveller's notice. The civic buildings of Brescia, including the Palazzo della Loggia, the Broletto, the Torre delle Pallata, &c., and the palaces of the old families of the city, are on a scale which is now to be seen in towns of much greater importance north of the Alps. The ramparts, now converted into a public drive, command fine views of the surrounding country. The Campo Santo, near the town, contains many fine monuments, and deserves a visit.

### ROUTE B.

BERGAMO TO BRENO IN VAL CAMONICA,  
BY LOVERE.

The traveller approaching Val Camonica from the W. may choose between several routes from Bergamo.

The shortest way is to take the railway to *Palazzolo*, a large village on the Oglio, about 6 m. from the S. end of the Lake of Iseo. He may there hire a light carriage, or take the omnibus (twice daily?) to *Sarnico*, a village on the rt. bank of the Oglio, just at the point where it issues from the Lake of Iseo. It has an indifferent Inn. The traveller may then proceed to Iseo (last Rte.), or to Lovere (see below), by the steamer. Pleasant walks may be made from Sarnico over the hills above the lake, and the pedestrian may take that course to Lovere, ascending on his way the *Monte Bronzone* (4,446'), commanding a fine view over the lake, and then pass by Fonteno and Esmate. Another way is by a wooded valley, called *Val Culeppio*, lying on the W. side of Monte Bronzone, and about due N. of Sarnico. There is a track that way to Lovere which passes Adrara and Fonteno.

Another way from Bergamo to the lake is by the Baths of *Trescorre* (about 10 m. from that town), now much frequented for its mineral waters, but not attractive to the traveller. This place

lies at the opening of *Val Cavallina*, a deep excavation in the hills, occupied at its upper end by a long narrow sheet of water, called *Lago di Spinone*, drained by the Cherio torrent. A good road is carried along the rt. bank of that stream, and after passing the Lake of Spinone, traverses a level tract but a few feet higher than its banks, and descends very slightly towards the Lake of Iseo. After joining the road from Clusone, the shore is reached about 15 m. from Trescorre, and in 1 m. more the traveller arrives at *Lovere*, a village with a fair country Inn (Canone d'Oro), offering the best quarters and the prettiest position on the lake. Among other short excursions in the neighbourhood, the stranger may visit a curious gorge, called *Orrido di Tinazzo*, near the road from Trescorra.

Having reached *Lovere*, either by *Sarnico* or by *Val Cavallina*, there is a good road along the rt. bank of the *Oglio*. By that way the main road from *Brescia* to *Breno* and *Edolo* is joined about 8 m. from *Lovere*.

### ROUTE C.

#### BERGAMO TO BRENO, BY CLUSONE.

A somewhat circuitous route, especially interesting to the botanist who can spare time for a visit to *Castione*, enables the traveller to see something of the lower part of *Val Seriana* on his way from *Bergamo* to *Val Camonica*. The carriage-road up *Val Seriana* is carried as far as *Ponte di Noss* (§ 38, Rte. A), and then turns aside to N.E., in order to mount a low ridge forming a depression in the range on the E. side of *Val Seriana*. Here stands the large village of *Clusone* (2,129'), with a good country inn. About 2 m. E. of *Clusone* the *Borlezza* torrent, which had flowed for several miles towards W.S.W., makes a sharp turn to the S., and finally runs S.E. to enter the L. of *Iseo* a little way S. of *Lovere*. There

is a good road along the stream leading from *Clusone* to *Lovere*, by which place (see last Rte.) the traveller may reach *Breno*.

The other way from *Clusone* to *Breno* is by the upper valley of the *Borlezza*. A char-road leads to *Castione* (2,740'), about 6 m. from *Clusone*. This village stands at the S. base of the *Monte Presolana* (8,202'), formed of crystalline limestone, and very interesting to the botanist for the numerous rare plants that are found on its rocks, including most of those found on the limestone mountains of *Val Sassina* (§ 38, Rte. E). The rare *Campanula elatinoidea* descends to the neighbourhood of *Castione* and *Clusone*, where it is seen on old walls, and has been gathered, though very rarely, near the shores of the Lake of *Iseo*. The pedestrian may go from *Castione* to *Val Camonica* across the ridge S.E. of the *Presolana* overlooking the *Val di Scalve* (Rte. D). The height of the pass is not more than 4,265 ft. The beaten track leads from the pass up the last-named valley to *Schilpario*, but it is doubtless possible, with the help of a local guide, to descend the E. side of *Val di Scalve* to its junction with *Val Camonica*.

### ROUTE D.

#### LOVERE TO EDOLO, BY VAL DI SCALVE.

Reference has been made in Rtes. A and C to the *Val di Scalve*, one of the chief lateral valleys of *Val Camonica*. As in all the valleys that penetrate deeply into the range of the Lombard Alps, the torrent at the head of the valley flows parallel to that range from E. to W. At the hamlet of *Vilminore* it turns to the S., and ultimately flows S.E. into *Val Camonica*. As mentioned in the last Rte., the *Val di Scalve* may be entered from *Castione* by a pass S.E. of the *Presolana*; but the ordinary way is by a bridle-track that turns aside from the high road about 8 m. from

Lovere, and mounts the slope above the l. bank. Fully 4 hrs. are required for the gradual ascent by a path winding along the mountain declivity to reach the point where the valley turns to the E. along the base of the range whose highest summits are *Monte Gleno* and *Monte Venerocolo*. Through a lateral glen that joins the valley close to Vilminore, a rough track mounts to a pass on the E. side of Monte Gleno, and then descends through the *Val di Belviso*, entering Val Tellina at the point where the road of the Aprica descends to Tresenda.

The chief village of the upper part of Val di Scalve is *Schilpario*, where a naturalist may probably find tolerable accommodation. The line of junction between the Verrucano and the Trias appears to run along the head of the valley, and the Venerocolo produces many of the rare plants that prefer a siliceous soil.

The bridle-track from Schilpario to the upper part of Val Camonica is carried about 10 m. nearly due E. to Capo di Ponte, on the high road, about 5½ m. N. of Breno, or 13 m. from Edolo. A shorter way for a pedestrian to the latter place bears to the l. from the bridle-track, mounts a rather steep ridge, and descends into Val Paisco, which enters Val Camonica about 8 m. below Edolo.

### ROUTE E.

#### EDOLO TO SONDRIO, BY THE APRICA PASS.

About 17 m. to Tresenda—12 from thence to Sondrio.

The excellent new road over the Aprica Pass is very convenient for travellers who would combine a visit to Val Camonica with a tour in the Bernina Alps. The ascent from Edolo through the Val di Corteno, a lateral valley opening due E. of that place,

is gradual, and nowhere very steep; and in about 10 m. the traveller reaches the summit of the *Aprica Pass* (4,052'). There is a very rough inn at the poor hamlet of Aprica, near the summit. The descent into Vall Tellina is much more abrupt than the ascent on the opposite side, and the difference of level much greater. Near the point where the declivity becomes steep there is a very fine view reaching at least 30 m. along the course of the Adda, from a place called Belvedere, where there is a neat little country inn. The descent is effected by one long zigzag, and in one place a short tunnel is made to permit the passage of the new road. The road from Tresenda to Sondrio is described in § 36, Rte. E.

### ROUTE F.

#### PONTE DI LEGNO TO SANTA CATARINA, BY THE GAVIA PASS.

The Route last noticed is convenient for those who are unable to achieve a moderate day's walk; but the present is in every way preferable for the mountaineer, connecting, as it does, two districts that offer many objects of attraction, by a wild and striking pass. In mounting from Ponte di Legno, which is about 1,500 ft. lower than Sta. Catarina, 7 hrs., exclusive of halts, should be allowed; but when travelling in the opposite direction, a steady walker may accomplish the distance in about 6 hrs.

A rough char-road is carried along the W. side of the valley, keeping at some height above the rt. bank of the Oglio till it approaches the village of Pezzo, which stands on rising ground above the opposite bank. NE. of the village a short glen leads to a low and easy pass—*Passo di Montozzo*—lying between the Monte Tonale and the Monte Tozzo, over which runs a path that leads from Pezzo to Pejo in Val di Sole in less than 4 hrs. Local tradition asserts that the now nearly bare slopes on either side of the Oglio were once covered with dense forests, which were destroyed by fire during some of the

wars that at many successive periods have been waged on this frontier of Lombardy. The head of the valley of the Oglio from hence to the Gavia Pass is called *Val Mazza*.

The traveller bound for the Gavia Pass should leave Pezzo on his rt. hand, and follow the track that keeps close to the l. bank of the Oglio, till he meets the cart-road from that village at a chalybeate spring just below the nearly filled-up *Lake of Silissi*. At its N. end the appearance of the ground and the large blocks scattered over the valley, give colour to the tradition that 2,000 sheep and several shepherds were here overwhelmed by a berg-fall. Here the cart-road comes to an end, and a rough, but frequented track begins to wind up the mountain side. Nearly half-way in the ascent is a *maso*, or *baita*, where fresh milk is generally obtainable. The Val Mazza opens out at its head, and the chief sources of the Oglio are the streams that are seen to descend from small glaciers on the flanks of the mountains lying W. of the valley. The highest of these is called on the Austrian map 'Monte Gavia,' and its height is stated on the authority of 'Austrian Engineers' to be 11,752 ft. The name does not appear to be known, at least on this side of the mountain; and the height, as the writer has assured himself by levelling, is little, if at all, over 11,000 ft. Bearing a little to the l. from the track, the traveller gains a good view of the Lago Scurio, a dark tarn more than 7,000 ft. above the sea, whence issues a rivulet which is often deemed to be the source of the Oglio.

The track keeps well to the rt., very stony towards the top, but not easily missed unless covered with snow. The passage is not at the centre of the broad trough that divides the high range of the Tresero to the rt., from the somewhat lower mountains to the W., but lies over some flat ledges of rock, 100 ft. above the lowest point. The wooden cross marking the summit is about 8,600 ft. above the sea. The broad valley on the N. side

of the pass is one of the most singular in the Alps, as it extends for several miles with a merely trifling inclination, although the torrent has cut a channel of vast depth in its centre. To the l. of the path, and somewhat below it, is the *Lago Bianco*, a small lake formed by the melting of the snows. Its S. end lies close to the Watershed between the Oglio and the Adda, but its stream flows through Val Gavia to the latter river. The tract now traversed has been compared to the summit of the Rawyl Pass, to which it offers some resemblance, though but a superficial one, as this is not a plateau, but a flat-bottomed valley enclosed between two parallel ridges. The summit of the pass, and the dreary tract extending through the head of Val Gavia, are ill-famed for the numerous fatal accidents that have befallen wayfarers overtaken by the tourmente on this shelterless wilderness. Many small crosses record these events. One such on the N. side of the pass marks the place where the body of a widow was found whose husband had perished years before in the same manner, a few hundred yards from the same spot. Another records the fate of two monks.

Two paths lead from the summit to Santa Catarina. The Senter di Tresero, keeping to the E. side of the valley, is somewhat longer, but much easier, and is almost universally preferred. On the opposite side is the so-called Senter di Gavia, said to be very rough, and to involve several ascents and descents. For a considerable distance the Senter di Tresero lies over a flat waste paved with small fragments of stone, and watered by rivulets from the snowfields on the adjoining slopes. Only here and there the brilliant colours of the gentian, primrose, and androsace give variety to the scene. Leaving on the rt. hand the rough slopes that lead up to the Sforzellina Pass (§ 37, Rte. B), the traveller approaches the opening through which the Gavia Glacier protrudes its icy tongue close to the track. The main torrent from the Lago

Bianco has by this time cut a trench of extraordinary depth in the centre of the valley, which widens out, and leaves a mere shelf along which the track is carried. After passing the Ponte di Preda, close to the cascade that falls from the glacier, the path still keeps nearly at a level till it reaches a point where the traveller looks down upon the head of Val Furva, and the sight of pine forests and green pastures relieves the sternness of the scene. A very steep descent leads down to the Ponte della Vacca, the only bridge over the main torrent. After crossing this, a slight ascent leads over the shoulder of the mountain, and the path descends through a larch forest to Santa Catarina (§ 37, Rte. B).

## ROUTE G.

## BRENO TO LODRONE, BY THE CROCE DOMINI PASS.

The Pass of Croce Domini, and the paths leading to it on either side, nearly coincide with an orographic and also a geological boundary, between the high granitic ranges that extend northward from thence to Val Vermiglio, and the sedimentary rocks that enclose the so-called Brescian valleys. On the W. side the track here noticed is not particularly interesting; but the beautiful valley of the Calfaro, by which the traveller descends to the Chiese, is scarcely to be surpassed for varied and picturesque scenery. In going to the pass from Breno, it is not necessary to descend along the Oglio to the junction of the torrent from the pass. There is a shorter track by Pedarzo to Prestine, and the way then lies along the rt. bank of the torrent, through a glen which, at least in its upper part, is somewhat bare and deficient in striking features. The *Croce Domini Pass*, about 6,500 ft. in height, is the most direct way from Val Camonica into the valley of the Chiese, but is little frequented. *Primula calycina*, *P. longiflora*, and other rare plants,

may be gathered on the ridge a little above the summit. Some redoubts were thrown up here by the Austrians in 1859. The mule-track, after descending the grassy ridge at the summit of the pass, follows a circuitous course, keeping for a considerable distance an easterly direction, until it reaches the upper valley of the Calfaro. The way is thenceforward about due S., by a track along that stream. A more direct course from the pass may be taken through a wild glen called *Val Sanguinera*, which descends SE. to join the Calfaro several miles lower down than the regular path. In ascending from Bagolino, there is not much difficulty in finding the way by the E. slope of Val Sanguinera; but it might be difficult to descend through it without local knowledge, and the scenery of the ordinary path is probably at least as interesting.

The valley of the *Calfaro*, which penetrates by various branches into the group of high peaks to the north, whose summits range from 8,000 to 9,000 ft., abounds with exquisite pictures, and may well induce the lover of nature to devote a few days to its exploration. The main torrent forms some remarkably fine waterfalls: the lowest, about 1 hr. above Bagolino, near the point where the track crosses to the l. bank by a stone bridge, would probably gain celebrity if it were not very difficult to obtain a favourable view of it. Mines have been worked at various points in the valley, but they do not appear to have been productive, and except a few scattered houses of the poorest class, there is no village, or even hamlet, found until the traveller descends to *Bagolino*. Tolerable accommodation is found here at a rustic Inn (kept by Ciappana?). As in other similar places, some patience is necessary for the traveller arriving in a place where there is no provision for his reception, and a foreign visitor is a rare and almost unknown animal. The position of the village (about 2,000 ft. above the sea), on the brow of a steep declivity overlooking the

deep valley of the Calfaro, is very beautiful. A char-road has been constructed through the lower part of the valley, but the judicious traveller who traverses it early in the morning or late in the afternoon will prefer to walk. About 1 m. below the village the well-made new road crosses to the rt. bank, and the valley gradually opens as a rapid descent leads down towards the Lake of Idro. The traveller who would enter the Austrian territory by the bridge of Lodrone may save time by a short cut down grassy slopes, under the shade of fine chestnut trees, and in 1 hr. from Bagolino will reach the bridge which is the boundary of Tyrol (see § 40, Rte. A). The l. bank of the Calfaro belongs to Austria for a distance of about 1 m. only: the frontier line then turns to N., leaving the *Mte. Caren* (6,406') over Bagolino on the Italian side of the boundary.

#### ROUTE H.

##### ISEO TO GARDONE IN VAL TROMPIA.

The traveller wishing to visit Val Trompia (described in the next Rte.) from the Lake of Iseo has a choice of many agreeable paths. The easiest is reached from the village of Iseo by mounting the wooded hills above the lake, which are traversed by many rough paths. In  $\frac{1}{2}$  hr. he will fall into a bridle-path leading to *Polaveno*, a poor village in the hills, half-way between Iseo and Gardone. The descent to the Val Trompia is very agreeable, and there is a tolerable road all the way. Gardone is  $1\frac{1}{2}$  hr. descending from Polaveno. The whole walk takes from 3 to  $3\frac{1}{2}$  hrs.

Another much rougher path leads from Pisogne at the head of the L. of Iseo to Bovegno in 5 hrs.

#### ROUTE L

##### BRESCIA TO LODRONE, BY VAL TROMPIA.

Carriage-road to S. Colombano 30 m.—Bridle-track to Bagolino  $3\frac{1}{2}$  hrs.—Carriage-road thence to Lodrone  $1\frac{1}{2}$  hr.

The *Val Trompia*, producing the greater portion of the iron used in the manufacture of arms for which Brescia has long been famous, lies immediately to the N. of that city, and is drained by the *Mella*, a stream that enjoys the distinction of being mentioned in the verses of Virgil and Catullus. The scenery of the valley is pleasing; and the route here indicated is the most direct, and perhaps the most agreeable, for entering the Italian Tyrol from Brescia.

There is a good road as far as Bovegno, which has been lately continued as far as S. Colombano at the head of the valley. An omnibus plies daily between Brescia and Bovegno, leaving the city at 3.30 P.M., and returning at 4.30 A.M., on the following morning. The hills begin to rise on either side of the *Mella* very soon after the traveller leaves Brescia, but do not deserve the name of mountains until he approaches

*Gardone* (Inn: *Stella d'Oro*, in the little piazza, good and reasonable), the principal place in the valley, 12 Italian or nearly 14 English m. from Brescia. The valley is rather thickly peopled, and there are many iron-works connected with the mines which are worked at many places in the mountains at the upper end. The road is carried all the way along the l. bank of the *Mella* to *Bovegno* (accent on the first syllable). There is here a very fair inn. Above this village the scenery becomes more interesting; the torrent of the *Mella* brawls between siliceous rocks, probably referable to the *verrucano*; and alpine plants, such as *Silene rupestris*, descend to the banks. The road passes *Collio*, a poor village about 4 m. from Bovegno, and ends about 2 m. farther at *San Colombano*, with several scattered groups of houses, and a small

establishment, prettily situated, where patients come in summer to drink the waters of a mineral spring. Here commences the ascent to the pass connecting the head of Val Trompia with the valley of the Calfaro. There is a well-traced bridle-track which mounts by zigzags, keeping a direction nearly due E. between the Monte Maniva to the N., and the Dosso Alto, on the S. of the pass. The latter mountain has been visited by Zantedeschi and other botanists, who have found on it many of the rarest species of this district. In the upper end of this valley, and in that of Calfaro, the botanist will observe *Arabis Halleri*, here rather common. There is a shed at the summit of the pass where wayfarers usually halt for refreshment. In 1862 it was occupied by an old man who declared that he had spent fifty-six summers in the same place!

The descent into the valley of the Calfaro is by a very rough track, which may, however, be avoided by short cuts in many places. The views gained throughout the way to Bagolino (Rte. G.) are very beautiful, and the traveller may well be tempted to make that village his head-quarters for one or two days, in order to explore the upper part of the Calfaro valley. The way to Lodrone is noticed in Rte. G. The hurried traveller who wishes to descend at once to Lodrone may probably save some time by avoiding Bagolino. The writer believes that there is a track on the S. side of the valley by which the new road may be reached at or near the bridge by which it passes to the rt. bank of the Calfaro below Bagolino.

### ROUTE K.

#### BRESCIA TO VESTONE IN VAL SABBIA.

This Rte. is indicated here, although information as to details is completely defective, in order to call attention to the fact that there is a road, completed

within the last few years, which offers a direct and agreeable way for a traveller wishing to visit the Lake of Idro, described in the next section, from Brescia. It is carried through a hilly country commanding fine views at some points, and traverses *Preseglie* before reaching the main road through Val Sabbia at Barghe. That hamlet is about 3 m. below Vestone, which is farther noticed in § 40, Rte. A.

### SECTION 40.

#### ADAMELLO DISTRICT.

TRAVELLERS who attain to a commanding height on the S. side of the Pennine Alps usually see in the far east an extensive range of snowy Alps crowned by some high conical peaks. One after another has satisfied himself with the assurance that the most prominent of these peaks must be the Orteler Spitze, and people have come to fancy that they recognised the peculiar form of that mountain, although in fact it is so situated that nothing beyond the bare summit of the peak can be seen from the westward above the range of Monte Cristallo. A reference to the map and a compass would usually have sufficed to show the careful traveller that the snowy range in question lies considerably to the S. of the Orteler group, and might perhaps have had the effect of sooner drawing attention to one of the most extensive of the higher masses of the Alps, which we here distinguish by the name of its best known summit as the Adamello group. The absolute height of the peaks, not quite attaining 11,700 ft., does not give a measure of the vast mass which is here lifted above the level of the surrounding valleys, and of the great tracts of glacier and névé that feed two of the most considerable

streams of the Southern Alps—the Sarca and the Chiese. On the W. side several short glens descend towards Val Camonica, and bear down tribute to the waters of the Oglio; but the larger portion of the drainage of the glacier region is carried into the Sarca, and ultimately reaches the Lake of Garda.

The principal mass to which the foregoing remarks apply is formed of a remarkable granite, highly crystalline in texture, containing much amphibolite, and, so far as the writer has seen it, nowhere exhibiting the gradual transition into gneiss which is so commonly visible in the Alps. Extending southward through the ridges that enclose the head waters of the Chiese, the same granite forms on the one side the peak of Monte del Castello, and the adjoining summits to the S.; and on the other, the Monte Grisa (9,749'), and the range at the head of Val di Breguzzo. There is reason to think that this is by far the most considerable mass of true granite in the Alps.

A zone of metamorphic rocks is traceable along the E. side of the granitic range, and may possibly extend some way along the N. side, in Val Vermiglio; but towards Val Camonica the granite appears to come in immediate contact with the gneiss that prevails in the upper part of that valley.

A glance at the geological map shows that a line drawn SSW. from Dimaro in Val di Sole to Condino on the Chiese nearly coincides with the boundary between the metamorphic rocks, above spoken of, and the jurassic limestone, which is here for the most part converted into dolomite. It will be observed that the same boundary also coincides with a line of depression occupied by four valleys which are connected by two low passes, extending about 50 m. nearly in a straight line to Vestone in Val Sabbia. It may also be remarked that the same line is parallel to the valley of the Adige, the Lake of Garda, and the principal portion of Val Camonica.

The district briefly described in the present Section includes the granitic range whose chief summits are the Presanella (11,688'), the Adamello (11,667'), and the Carè Alto (11,352'); and, in addition to this, the high mass of dolomite mountains lying between Val Rendena and Val Selva to the W., and the Val di Non and the Adige to the E. We also include the beautiful region extending southwards towards the plains of Lombardy between the Chiese and the Lake of Garda.

It is impossible to look at the map of the district here defined without being struck by a characteristic peculiarity in the course of the two chief rivers and their tributaries. These flow either from NNE. to SSW. along the main valleys, or else through narrow clefts whose direction is nearly from W. to E., so that the course of each of the principal streams makes one or more sharp elbows.

If the writer is not misled by personal predilection, the portion of the Alps now to be described is one of those most abounding in attractions. The peaks do not rival the greater giants of the Alps; but they rise out of low valleys, so that their relative height is very great. The scenery of Val Rendena is pre-eminent for the charm of variety. On the one side is a vast glacier region, but partially explored, whose peaks are probably all accessible; on the other is a group of dolomite mountains, of which the highest—the Brenta Alta (10,771')—is inferior only to the Marmolata in height, and fully equals it in the boldness and inaccessibility of its towers and pinnacles.

Much additional information as to this district has been recently obtained. The writer has paid to it several too hurried visits, but has not been fortunate in regard to weather. He has been lately followed by several English mountaineers, and by Lieut.-Col. von Sonklar, but the most persevering and successful explorer has been Lieut. Julius Payer, to whose valuable paper, published in Petermann's 'Geograph-



ische Mittheilungen,' the reader is referred for details.

The stranger in this district is apt to encounter more difficulty than usual in the Alps in ascertaining the names of the mountains. As a general rule, the native mountaineer takes no especial notice of the peaks of the Alps. At an early period the mountain pastures to which he resorts with his cattle had acquired distinct names, as did also the passes leading from one valley to another; but in the great majority of cases the names of the summits have remained vague and uncertain, except where regular surveys, or at least the visits of strangers, have fixed specific names to certain peaks. In this district scarcely any strangers have been seen, excepting the officers employed on the Austrian Survey, who have usually been unfamiliar with the language of the people, so that the nomenclature remains in its natural unsettled condition. The native term *vedretta*, applied either to a glacier or snow-field, is collectively given to portions of the snowy range including several peaks, and has been incorrectly attached to one or other of these by the persons engaged in mapping the district.

The writer is happy to adopt nearly all the names proposed by Lieut. Payer, save as regards the two great glaciers at the head of Val di Genova, for which he has maintained the designations adopted by von Sonklar, since followed by Mr. Tuckett, and by himself, and certainly used by some, if not all, of the herdsmen at the head of the valley.

The heights of the peaks in this group do not appear to have been accurately determined, and it is questionable whether those of the Austrian Kataster are not too low by nearly 200 ft. There is no guide in Val Rendena who can be safely recommended as a companion in glacier excursions. Matteo and Bonifazio Nicolosi of Molveno are good cragsmen, and with some practice may perhaps become efficient guides. Fair accommodation is found in

most of the villages in this district, and there are good country Inns in the larger places, such as Storo, Condino, Tione, &c. The best head-quarters for a mountaineer are found at Pinzolo, near the head of Val Rendena.

### ROUTE A.

MALE TO SALÒ ON THE LAKE OF GARDÀ, BY VAL RENDENA AND THE LAKE OF IDRO.

	Hrs. walking	Eng. miles
Dimaro . . . .	1	3
Campiglio . . . .	3	8
Pinzolo . . . .	3	8
Tione . . . .	3½	10½
Condino . . . .	4½	12½
Lodrone . . . .	2	6
Vestone . . . .	4	12
Salò . . . .	4	12
	<hr/> 25	<hr/> 73

A tolerably good carriage-road runs all the way, except between Dimaro and Pinzolo, where there is a frequented bridle-track. The route here laid down lies for the most part along, or very near to, the boundary between the older metamorphic rocks and the jurassic limestone; so that nearly all the way from Dimaro to the Lake of Idro the traveller has granite or metamorphic rocks on his rt. hand, while on the other side crystalline limestone and dolomite form peaks that present a striking contrast to the others in shape and appearance. Close to Dimaro (§ 37, Rte. B) the Melledro issues from a narrow glen called *Val Selva*, and the way to Val Rendena is by a rough track that mounts rather rapidly along the base of a range of limestone crags. The W. side of Val Selva is densely wooded, as the name imports, but the axe has begun to devastate the primæval forest. Towards the head of the glen, in boggy ground near the track, the botanist may gather three British plants—*Andromeda polifolia*, *Carex pauciflora*, and *C. limosa*—all of them, but especially the first, very rare on the S. side of the Alps. The pass leading from Val Selva to the basin of

the Sarca is a deep depression in the high range which elsewhere encloses the head of that river, and is not more than about 5,200 ft. in height. The ridge, locally called *Ginevrie*, is partly covered with wood, and an easy descent leads from it to the pilgrimage church and inn of *La Madonna di Campiglio* (4,955'). Rough but clean quarters, are found at this attractive spot, commanding fine views of the *Monte Spinale* (8,198'), which is accessible without much difficulty; and the expedition may be recommended to the botanist, who will there find many of the characteristic plants of the dolomite mountains. The valley leading to Pinzolo is called *Val Nambino*; and its upper portion is open, affording most striking views of the neighbouring peaks. The Nambino torrent flows from a recess in the mountains S. and E. of the *Monte Spinale*; and by that way there is a pass to *Val Sporeggio*, a lateral valley of *Val di Non* (see *Rte. H*). The track to Pinzolo keeps to the slopes above the rt. bank of the Nambino, and leaves on the opposite side of the valley the opening of *Val Brenta* and *Val Agnola*, which run deep into the mass of the *Brenta Alta*, whose wonderful towers and pinnacles remain in view all the way to the chapel of *St. Antonio*. The descent then becomes more rapid; the torrent issuing from *Val Nambrone* descends on the rt. from the recesses of the *Presanella*, joins the Nambino, and both together very soon enter the head of *Val Rendena*. The first hamlet is *Caresolo*, and about  $\frac{3}{4}$  m. farther the traveller reaches

*Pinzolo* (2,514'). In this remote spot, persons not over-fastidious find very fair accommodation, much civility, and very reasonable charges, at an Inn kept by *Bonapace*, which stands a little way to the l. of the road in entering the village by the road from *Tione*. Improvements will doubtless be made as the place becomes more frequented by strangers. Many days may be well spent here in excursions, a few of which are noted here, but each tra-

veller may strike out new expeditions for himself.

*Val Rendena* is the name of the inhabited portion of the upper valley of the Sarca extending NNE. from *Tione* to *Caresolo*. It is one of the deepest of the interior valleys of the Alps, not rising more than 600 ft. in a distance of 10 m. Near *Pinzolo* the Sarca issues from *Val di Genova*, a glen clothed with dense forests, through which it has flowed for many miles nearly due E. In this wild valley there is no permanent dwelling, and it was almost unknown, save to the native hunters and herdsmen, until of late years, when the woods have been thinned to supply fuel for glass-works at *Tione*, and cart-tracks have been carried up it for a considerable distance (see next *Rte.*). The churches in *Val Rendena* deserve the attention of the antiquary, and there are two near *Pinzolo* which the stranger should not omit to visit. That nearest the village, scarcely  $\frac{1}{4}$  m. distant, is dedicated to *San Vigilio*, and is covered within and without with frescoes. Those outside, though suffering from time and neglect, are the most remarkable; and portions of a *Dance of Death*, which are in tolerable preservation, and bear the date 1536, have considerable merit as works of art. The frescoes of the interior, illustrative of the life of *St. Vigilio*, are inferior in design. More interesting than this is the small church of *San Stefano*, also adorned with frescoes, and standing on a rock at the opening of *Val di Genova*. It appears to be very ancient, and contains a long inscription, recording the passage of *Charlemagne* through the valley with a body of 4,000 knights, &c., and the *Privilegium* accorded to the church by that Emperor and the reigning Pope (*Eugenius*).

Those who do not attempt the ascent of the *Presanella* may make an agreeable excursion, which will give them some insight into the topography of that fine mountain. Rather more than 1 hr. from *Pinzolo* is a noble waterfall of the copious torrent from the *Alp of*

*Nardis*, where the minor streams arising from the snows of the *Presanella*, and several masses of glacier lying on its flanks, unite and fall in a succession of cascades into Val di Genova. A rough path mounts on the E. side of the waterfall, not commanding very favourable views, and continues to ascend, chiefly amidst wood, till, in  $4\frac{1}{2}$  hrs., the malga of *Nardis* is reached. Some way to the l. of the path is another waterfall, which seems even finer than the first, but it would take some time to approach it.

There can be no doubt that the *Presanella*, here called *Cima di Nardis* (11,688'), is most easily accessible from the *Vedretta di Nardis*, which descends SE. from the peak. The summit was first reached in 1864 by Messrs. Freshfield, Beachcroft, and Walker, with François Devouassoud. Sleeping at a shepherd's hut in Val Presena near Pizzano, they ascended by the W. side of a small glacier to a pass, the *Passo di Cercen* (10,030') of Payer—not to be confounded with that of the same name between Rabbi and Pejo. Turning eastwards, they climbed steep ice-slopes to the arête connecting the E. or highest peak with the W. summit. The former was attained by the somewhat difficult arête in  $3\frac{1}{2}$  hrs. from the col. The second ascent by Lieut. Payer was made about three weeks later. With three natives of the valley, he slept at the highest hut in Val Rocchetta. From thence they climbed to a depression, seen from Pinzolo, between the *Cima delle Rocchette* (10,777'), and a summit S. of it called *Cima delle Ghiaje* (9,880'). Keeping to the E. side of the former peak they reached the *Vedretta di Nardis*, crossed that glacier high up, and reached the peak from the E. side, by snow-slopes overlooking the head of Val Nambrone.

The traveller who would vary his way back to Pinzolo, may mount for some distance above the malga to a gap in the steep ridge to the rt. called *La Porta dell' Amola*, which is occasionally used by the herdsmen to pass from the Alp of *Nardis* to that of *Amola* at the

head of Val Nambrone. It is marked by a small wooden cross, and is about 9,000 ft. in height. *Val Nambrone* is a very wild steep glen, with several branches, each of which leads to one or more small alpine lakes. The descent is rapid, but the way is rather long, and 4 hrs. may be allowed for returning from the malga to Pinzolo.

In marked contrast to the scenery of the granitic ranges, the *Brenta Alta*, with its towers and crags of dolomite, rises E. of Pinzolo, but is divided from Val Rendena by a much lower secondary range parallel to the direction of the main valley. A very agreeable expedition may be made by following the track through Val Nambino for about  $1\frac{1}{2}$  hr. from Pinzolo, and then turning abruptly to the southward through the short and very picturesque glen of *Val Agnola*, lying between the main mass of the *Brenta Alta* and the secondary ridge dividing it from Val Rendena. At the head of this glen the traveller, by bearing to the l., may reach a wild hollow in the mountain where rocks and vast piles of débris are surmounted by a small glacier lying on the S. side of one of the higher peaks of the *Brenta Alta*. By keeping well to the l. along the base of some nearly vertical rocks, it is not difficult to reach the glacier without danger, and by that way it may be possible to attain the top of the peak in question, which is not, however, the highest, and which is separated from the adjoining summits by vertical clefts of great depth. It is dangerous to approach the small glacier by climbing the rocks below it, as masses of ice are occasionally detached, especially during the warmer hours of the day. Instead of bearing to the l. at the head of Val Agnola, the traveller, by keeping due S., will reach a tolerable path that turns to the rt., or about due W., lying for some distance nearly at a level, and leads him to the head of a short glen or recess in the mountains, where several small streams unite to form a torrent that flows into Val Rendena

about  $1\frac{1}{2}$  m. below Pinzolo. The upper part of this recess is called Brenta dell' Orso, and it offers the most direct way for approaching the Brenta Alta from Pinzolo, as but a short descent is required to reach the above-mentioned hollow immediately below the higher peaks of the mountain. If the traveller who has attained the head of Val Agnola leaves on his rt. hand the track to Brenta dell' Orso, and continues to mount towards the S., he will reach in about 1 hr. more the summit of a ridge called Prà Fiori, overlooking the head of Val Dalcon, which joins the Sarca about 1 m. W. of Stenico (Rte. D). By that way, though it requires more time, the traveller leaving Pinzolo may reach the Baths of Comano (Rte. D). The shortest way for returning to Pinzolo from the Prà Fiori is by Brenta dell' Orso. Many rare plants may be gathered on the rocks of the Brenta Alta, which mountain appears to be the western limit of several of the species supposed to be peculiar to the dolomitic region between the Adige and the sources of the Drave. The following species are here found exclusively on calcareous rock:—*Papaver pyrenaicum*, *Arabis pumila*, *Dentaria polyphylla*, *Alsinia austriaca* and *A. lanceolata*, *Cherleria imbricata*, *Cerastium ovatum*, *Potentilla nitida*, *Saxifraga sedoides*, *Peucedanum austriacum*, *Heracleum polinianum*, *Crepis Jacquini*, *Phyteuma omosum*, *Pæderota Bonariota*, *Euphrasia tricuspidata*, *Carex baldensis*, and *Sesleria sphaerocephala*. Near the ridge of Brenta dell' Orso, the three European species of *Rhododendron*, *R. ferrugineum*, *R. hirsutum*, and *R. chamaecistus*, may be seen growing very near together a very unusual association. Lower down, on rocks above the highest chalet (malga), grows *Artemisia lanata*.

Another excursion to be made from Pinzolo is to the Lake of San Giuliano, lying high up in the mountains on the W. side of Val Rendena. It is possible to descend from it to Strembo, lower down in the main valley. If it be

practicable to reach the upper part of Val di Borzago, and then descend to Pelugo, the circuit could not fail to offer very fine scenery.

Most travellers keep to the road from Pinzolo to Tione, although it is possible to follow a track along the E. bank of the Sarca nearly all the way. The villages and hamlets follow each other in rapid succession. The comparatively dense population of this and the adjoining districts is supported by the migration to the large towns of many young people of both sexes. The upper valley of the Sarca, and that of the Chiese, as far down as Condino, make up the district called *Giudicario*, from the fact that for many centuries it retained local rights, and separate administrative institutions, under local magistrates, subject to the bishops of Trent.

Near *Pieve di Val Rendena*, which possesses the principal church of the valley, is shown the site, marked by an ancient church, where St. Vigilius, who first preached the Gospel in these parts, was stoned. At Pelugo (2,144') a short way below Pieve, is the opening of Val di Borzago. Through this the first ascent of the *Care Alto* (11,352'), the third in height, but the boldest in form of the granitic peaks of this district, was effected in 1865 by Messrs. Sedley Taylor, and Montgomery. Ascending by a path that crosses a shoulder of mountain at a great height above the l. bank, they slept at a comfortable chalet on that side of the valley. On reaching the glacier they worked obliquely across it till they reached the NW. arête, and attained the top by cutting steps up extremely steep ice-slopes. About 2 m. lower down is the opening of the Val di San Valentino, leading to the upper end of Val di Fum (Rte. C). In descending gently from Villa to Tione, the traveller will observe (jurassic?) limestone on the W. side of the valley, with the strata tilted into a nearly vertical position. As a general rule, the valley coincides very nearly with the W. boundary of the secondary strata. Keeping at

some distance from the Sarca, on undulating ground above its rt. bank, the road leads in 1 hr. from Villa to

*Tione* (1,919'), the principal place of Val Rendena, and of the district of Giudicaria. There is here a very fair country Inn (Corona) with reasonable charges, but a new house (Cavallo Bianco?) was open in 1863: the landlord is said to take undue advantage of strangers. The position of Tione is extremely picturesque. It is plainly seen from the neighbourhood of the village, that the true line of the main valley is that which extends SSW. in the same direction as Val Rendena. But, instead of finding its way in that direction, the Sarca turns abruptly somewhat N. of E., and descends to Le Sarche by the remarkable cleft described in Rte. D. The road to the Lake of Idro ascends gently from Tione above the l. bank of the *Arno*, as the stream is called which unites near *Bondo* the copious torrent issuing from *Val Breguzzo* with a lesser stream descending from Val Gavardina (Rte. F). The road soon reaches, at Roncone, the low ridge (about 2,280') that separates the Arno from the Chiese, and then descends by a rather more rapid slope to the opening of *Val Daone*, an important lateral valley, through which the principal source of the Chiese flows from the glaciers at the head of the Val di Fum (Rte. C). A considerable number of villages and hamlets are grouped about the point where the Chiese enters the main valley through which it descends to the Lake of Idro. The chief of these is *Pieve di Buono*, situated on the main road. Amidst very beautiful scenery, the traveller continues his route to

*Condino* (1,446'), the chief place in the upper valley of the Chiese, with several inns, of which the largest (Alb. della Torre) supplies very fair accommodation. A geologist would find interesting occupation in tracing the distribution of the erratic blocks from the range of the Adamello and Presanella through the extensive district

in which they are more or less abundant. If the writer is not misled, a careful study of the subject may lead to important conclusions. These erratics are so abundant, and of such large size, that they have been extensively applied to economical purposes, and in Condino and other villages the traveller will observe the remarkable granite in question, here called *pietra salaccia*, universally employed for doorposts, lintels, flags in doorways, and various other uses. The erratics of the main valley have in great measure disappeared, being those readiest to hand, and exposed to many agents of destruction; but they still exist in abundance on both slopes of the valley of the Chiese, up to at least 1,000 ft. above the river. See further remarks in Rte. E. Leaving to the l. the bridge leading to Storo, the road is carried along the rt. bank of the Chiese to *Lodrone*, a small village N. of the Calfaro, which here descends from Bagolino (§ 39, Rte. G) to join the Chiese. The first-named stream here forms the frontier between Italy and Austria, and custom-house officers await the traveller on either side of the bridge. On the opposite side of the Chiese the Austrian frontier extends down to the N. end of the Lake of Idro. On approaching the lake, the scenery of the valley, though still beautiful, loses much of the boldness that has hitherto characterised it. The mountains subside to a lower level, and are in great part clothed with deciduous trees.

The *Lake of Idro* is the smallest of lakes lying in the line of the greater valleys that descend to the plain of N. Italy, and lies higher than any of them. It is about 7 m. in length, little more than 1 m. in its greatest width, and about 965 ft. above the sea. The short valleys and dells on the E. side of the lake are remarkable for the richness of their flora, which includes many very rare plants, mostly the same that are characteristic of the flora of Val Vestino (Rte. G). The geologist or botanist wishing to examine the glen above *Bondone* should do so from Lo-

drone, before he has passed the Italian frontier; while the Monte Stino, lying in Italy, may better be visited by taking a boat from Anfo, and landing at the opposite side of the lake.

[*Bondone* is a remarkably picturesque village, perched on the summit of a very steep rock just above the N. end of the Lago d'Idro, and nearly 1,000 ft. above its level. Erratic blocks of granite, and the other rocks prevailing in the valley of the Chiese, extend some way above the level of the village. By the glen called Val Bndone the traveller may reach Magasa, at the head of Val Vestino (Rte. G.), over the ridge of the Monte Tombea, or by bearing to the l. will approach the Cima Spessa, commanding a fine view of the valley of the Chiese and the neighbouring ranges. Besides many other interesting plants, the botanist may gather here a curious Cichoraceous plant—*Hypochaeris Fucchiniana* of Ambrosi.]

The carriage-road is carried along the W. shore of the Lake of Idro, above which rises about midway the picturesque castle of *Rocca d'Anfo*, and a little farther S. the village of *Anfo* is passed. Soon after escaping from the lake, the Chiese forces its way in foaming rapids through a barrier of red slate, and thenceforward pursues a sinuous course on its way to water the plain of Lombardy between Brescia and Lonato. Between the lake and the plain, the valley drained by the Chiese is called *Val Sabbia*, a fruitful district, formerly rich in wine and silk, but it has suffered by the recent epidemics. The chief place is *Vestone*. 'Travellers should beware of Lecchi, innkeeper, near the (south) gate of Vestone. There is another Inn farther on (Tre Spade), recommended in preference.'—[M.] The way from Vestone to Salò is a very agreeable drive, when the heat is not excessive. The road soon crosses to the l. bank of the Chiese, and passes Barghe, Sabbio, and Volzano, besides other smaller places. Nearly 3 m. below the last-named village the road

to Salò turns abruptly to the l., and rather unexpectedly descends a short but steepish slope to reach the town.

From *Salò* (Inn : Gambero, good), an omnibus plies twice daily to Brescia. For the Lake of Garda, see Alpine Guide, Part III.

## ROUTE B.

### PINZOLO TO EDOLO, BY VAL DI GENOVA.

As mentioned in the last Rte. the inhabited portion of the upper valley of the Sarca terminates at Caresolo, the highest village in Val Rendena. Here the river makes one of those sharp bends characteristic of the orography of this district, and the *Val di Genova* through which it descends from its parent glaciers opens nearly due E. of that village. Until lately, unknown even by name to most Alpine travellers, this valley is surely destined to attract many future visitors, if the combination of all the elements of picturesque beauty suffices to recommend it. Nowhere else, not even in the Italian valleys of Monte Rosa, is the rich foliage of the chestnut brought so nearly into combination with the scenery of the ice-region. If it be true that no first-rate peaks are in view from the floor of the valley, the combination of forest and craig with glaciers of the grandest characters, and frequent waterfalls, any one of which would make the fortune of a Swiss valley, entitle this to rank among the most beautiful in the Alps. The increasing demand for timber to supply glassworks at the opening of the valley first set the axe of the woodcutter to work. This has led to the establishment of several sawmills, and a rough cart-track has been carried for several miles up the valley. The best mountaineer here is probably a chamois hunter, named Fantoma, but it seems that his character does not stand high, and the writer cannot recommend him as a guide. Girolamo Botteri, once an

active sportsman, but quite incompetent on ice, a man of substance, respected by his neighbours, has much local knowledge, and may be consulted with advantage. He accompanied Lieutenant Payer throughout his excursions in 1864, but is slow, and was found an incumbrance in glacier expeditions. Cesare Caturani, who has been employed by Lt.-Col. Sonklar, and by the writer, knows the valley well, and may be useful as a porter, but is no mountaineer.

A slight ascent, passing the Church of St. Stephen (Rte. A), and the glass-works, leads from Pinzolo to the entrance of Val di Genova. For nearly 2 hrs. the track keeps to the l. bank, passing close to the waterfall of Nardis (Rte. A). About 1 hr. farther, on the opposite side, near to the sawmills of Casol, are the still finer falls of Laris, formed by the torrent from the extensive *Vedretta di Laris*, which springs over three successive ledges of granite, measuring in the aggregate from 400 to 500 ft. in height. This part of the valley is known as Pian di Genova, being a nearly level tract about 3,650 ft. above the sea. Higher up the valley bends to NW. and the cart-road comes to an end on the rt. bank, at a spot called Ragada, where other sawmills are worked by the stream descending from a short and steep glen called *Val de Fargorida*. Hereabouts are a few patches of rye and flax, the only attempt at cultivation in the valley. The grandeur and beauty of the scenery constantly increases as the traveller advances. On his rt. hand he passes the opening of three narrow glens running up towards the Presanella. First comes *Val Rocchetta*, through which Lieut Payer made his ascent; then *Val Gabiol*; lastly, *Val di Cercen*, down which Mr. Freshfield and his companions descended, after accomplishing the first ascent of the peak. Near the opening of the last-named glen, the main stream of the Sarca springs over a series of ledges, the highest of which forms a very fine fall. It is easy to approach within a

few feet of the brink. Here the course of the Sarca forms the first of those sharp elbows for which it is remarkable throughout its career. In ascending the valley bends abruptly to SE., and the two great glaciers that close the head of the valley come suddenly into view. Between the ice-falls that nearly meet at its base, rises the dark pyramidal summit of La Lobbia (9,696'), whose form recalls that of the Wellhorn as seen from Rosenlaui. It has been ascended by Lt.-Col. von Sonklar. The track soon reaches the malga of *Bedole* (5,079'), which, however, is abandoned in the height of summer. It is ill-situated for a view, as it lies immediately below a pine-covered mound (ancient moraine?), which separates it from the *Malga di Venezia* (5,331' J. B.), the highest in the main valley. The head of Val di Genova is enclosed on the NW. and W. sides by a range of granite precipices that are broken through only by one gap, giving passage to the final ice-fall of the Bedole Glacier. S. of the fall, portions of the upper glacier hang over the edge of very steep rocks, threatening peril to any one who should attempt the escalade; and the glacier rests its rt. flank against vertical rocks at the base of La Lobbia. E. of this peak, the Matarotto Glacier falls due N. into the head of the valley, leaving but a narrow space between the bases of the two ice-falls. We here retain the name *Vedretta di Bedole*, used by the herdsmen and by von Sonklar for the larger glacier. This is the *Vedretta del Mandron* of Payer, and *Vedretta di Caresolo* of the Austrian military map, and including the great snow-fields at its head that feed also the glaciers of Adame and Salarno, is by far the most extensive in the Austrian Alps. Its eastern rival, here called *Vedretta di Matarotto*, is the *Vedretta della Lobbia* of Payer. The lower ice-fall of this glacier is perhaps not utterly impracticable, as that of Bedole seems to be, and in any case it should not be difficult to make a track along the E. base of the Lobbia at some height above the

ice-fall, which would lead without much difficulty to the upper plateau, and much shorten the way to Val di Fum, or for the ascent of the Adamello.

Three passes from the head of Val di Genova to Ponte di Legno in Val Camonica are known to the native hunters. All are approached by ascending along the course of a torrent that falls into the valley from the N., a little above the malga of Bedole. After a steep climb of 1,800 ft., the traveller finds himself on a level with the top of the precipices enclosing the head of the valley, and ascending slightly in a westerly direction, he may before long reach a shepherd's hut, or *Mandron*, which has sheltered some explorers of this region.

The easiest pass is, according to Payer, called *Passo del Lago Ghiacciato* (about 9,437'). A second pass (marked Pass A. on Payer's map) is apparently that traversed in 1867 by Mr. and Mrs. R. S. Watson, as to which the Editor has been favoured with notes. The way lies straight along the torrent mentioned above, leaving the Mandron at some distance to the l. On gaining a view of the rugged range that encloses the upland basin in which he stands, the traveller sees three depressions, or possible passes, of which that lying most to the rt. is to be chosen. It is immediately on the W. side of a very steep rocky eminence (Corno del Lago Scurò?). The way mounts gently over rough, but not difficult, ground, passing by a small lake, which is rarely free from ice. The descent over glacier does not seem difficult. After  $\frac{1}{4}$  hr. this is left by the W. moraine, and the Val delle Susine (mentioned below) is reached not far above Ponte di Legno. The local guide called this La Bocchetta, and knew no other way across the range. A third pass was traversed by the writer with C. Caturani. It lies much to the l., or SW., of the last, and some way N. of the P. del Lago Ghiacciato. Passing N. of the Mandron, over the ridge called Dosso di Marocaro, and W. of a dark tarn called Lago Scurò,

the pass is easily attained. The name Pisgana Pass, proposed in the Alpine Guide, is inappropriate, as the Monte Pisgana, or Piscanno, lies some way NE., and is not seen from the pass. Keeping to local usage, he proposes the name *Bocchetta di Marocaro*. He estimates the height at 9,680 ft. The descent is not very easy, unless there be a better way than that found when the clouds hung about the pass. He kept to the l., and had a little trouble in getting down a steep face of rock coated with ice, that divides an upper from a lower shelf of glacier, sustained by steep and high buttresses of rock that rise to a great height above the floor of the valley. The scenery at the head of Val delle Susine is of extraordinary wildness. Its head is closed by a fine glacier, seemingly not difficult of access. A slope covered with Alpine alder leads down to the pastures of the Val delle Susine, and Ponte di Legno is then easily reached in 7 or 8 hrs. from Bedole. The stream descending to Ponte di Legno is called *Narcanello*, but the name *Val di Narcane*, given on the Austrian military map, is not known to the natives. The name *Vedretta di Narcane*, proposed by Payer for the glacier at its head, may well be retained. At the S. end of this glacier rises the

*Monte Mandron Alto* (10,904'). If there be a tolerably easy pass on the W. side of that peak, leading to the upper névé of the Bedole Glacier, the ascent of the Adamello might be made from Ponte di Legno, starting very early. No attempt seems to have been made to effect a pass over the range N. of the Adamello, called by Payer *Corni del Confine*. The Lago di Avio may perhaps be reached by that way from Bedole.

In 1864 Dr. Lorenz, with a hunter of Val Vermiglio, whom he commends as a guide, crossed the ridge between the Tonale Pass and Bedole, apparently by the pass called by Payer *Passo di Fresena* (9,647'). This lies between the *Corno del Lago Scurò* (10,373'), ascended by M. Payer, and the *Crozz di*



*Val Zigola* (10,059'). The chief summits between the latter and the *Presanella* are the *Busazza* (10,903'), and the *Cima di San Giacomo* (10,752').

The most tempting excursion for a mountaineer from the Val di Genova is the ascent of the *Adamello* (11,667'). This is the westernmost of three adjoining peaks that rise a little on the S. side of the summit-level of the great snow-fields at the head of the *Bedole Glacier*. A portion of the same snow-field surrounds the three peaks on the W. and S. sides, feeding the Glaciers of *Adame* and *Salarno* that flow towards *Val Savio*, and sending another branch westward to the head of *Val di Malga*. See § 39, Rte. A. The first ascent was made by Lieut. Payer in 1864 from the *Mandron* hut (mentioned above). The second, from the *malga* of *Bedole*, was effected by Messrs. Tuckett, Fox, and Freshfield, in 1865. Both parties made a long circuit by the N. and W. sides of the *Vedretta di Bedole*, and crossed the great snow-fields to the foot of the *Corno Bianco*—the easternmost of the three adjoining summits. Lieut. Payer, whose guides remained behind, climbed this in mistake for the *Adamello*, and afterwards, as did also Mr. Tuckett's party, ascended the latter by its steep eastern face. The S. side shows above the glacier a range of steep rocks, and the N. face sinks in formidable precipices towards the *Lago di Avio*. The W. side alone offers a gentle slope, not requiring the use of the ice-axe. Mr. Tuckett's party effected a difficult descent from the plateau by rocks to the rt. of the ice-fall that closes the head of *Val di Miller*, the highest branch of *Val di Malga*; and arrived at *Edolo* the same evening. It would perhaps be easier to reach the good inn at *Cedegolo* by descending to *Val Savio* by the Glacier of *Salarno*, or that of *Adame*. From the ridge to the left of the latter, it is certainly possible to reach the head of *Val di Fum*.

For the traveller who seeks to reach the *Adamello* from *Pinzolo*, without

taking the head of *Val di Genova* on his way, the shortest way is to ascend the short glen called *Val Fargorida*, whose torrent joins the *Sarca* at *Ragada*. At the upper end is a *malga* which belongs, as do several others in the valley, to *Girolamo Botteri*. Here, at about 6,740 ft. above the sea, there is better shelter for the night than at the *Mandron* above *Bedole*. The *Vedretta di Fargorida*, a small glacier overlooked on the SW. by the *Crozzon di Laris* (10,889') and on the SE. by the *Crozzon del Diavolo* (9,956'), closes the head of the glen. Between the two peaks is a gap, called by Payer *Passo del Diavolo* (9,541'), by which it may be possible to reach the *Vedretta di Laris*, lying on the S. side of the pass. The traveller going from the *Malga* to the *Adamello*, or to *Val di Fum*, leaves the glacier of *Fargorida* on his l. hand, and ascends in a SSW. direction to the *Passo dei Topeti* (9,126'). Rather steep slopes, nearly bare of snow, lead to the top, where the traveller finds himself on a level with the upper plateau of the *Vedretta di Matarotto*. This is divided from the *Vedretta di Bedole* by a high range, including four principal summits. The southernmost of these has been called *Monte Fumo* (10,682'), though that name does not seem to be known to the herdsmen in *Val di Fum*. The whole range from thence to the peak rising above the head of *Val di Genova* has been collectively called *Lobbia*; but Lieut. Payer, who was the first to traverse it, gives to the latter summit the name *Lobbia Bassa* (9,696'). S. of this, and separated by a pass—*Passo della Lobbia Bassa* (9,541')—is the peak which he has called *Lobbia Alta* (10,578'). To this succeeds a broad snow col—*Passo della Lobbia Alta* (9,956'), followed by the *Dosson di Genova*, attaining a height of 10,890 ft., the steep ridge extending southward to the *Monte Fumo*. The way from the *Passo dei Topeti* to the S. base of the *Adamello* lies in a straight line nearly due W., across the *névé* of *Matarotto*,

over the Passo della Lobbia Alta, and then over the plateau at the head of the Bedole Glacier. The distance may be accomplished in from 3 to 4 hrs., according to the state of the snow.

The heights assigned to peaks and passes in this Rte. do not all rest on accurate observation, and may require further verification.

### ROUTE C.

#### CONDINO TO EDOLO, BY VAL DAONE.

It had often struck the writer as a very singular fact, that there should be a valley more than 20 m. in length without a village or hamlet, in a part of the Alps where the valleys are, as a general rule, deeply cut into the mountain ridges. Such, however, is the valley of the Chiese, as represented on the Austrian maps, above the point where it enters the main valley near Pieve di Buono (see Rte. A). Having sought information from intelligent persons residing in the same district, he was led to believe that the valley in question has continued to the present time to be probably the least known of all the considerable valleys of the Alps. Excepting some of the officers engaged on the Austrian map, and one or two botanists who have visited the lower part of the valley, there is no reason to believe that any intelligent stranger has ever explored it. The writer was able to pay it a hurried visit in the beginning of July 1863. That year was remarkable for the extraordinary quantity of snow that fell in this part of the Alps; and, as a general rule, the ridges enclosing the head of the valley, exposed to the full influence of the S. wind, are probably nearly clear of snow in summer; but the high plateau from whence arise the peaks of the Adamello and Carè Alto, is permanently covered with glacier and névé, which extend to the head of Val di Genova. The portion of Lieut. Payer's map representing the N. end of Val di

Fum, by no means agrees with the writer's recollection of the ground.

The upper portion of the valley of the Chiese, from the glacier at its head nearly to the base of Monte del Castello, is called *Val di Fum*; and from thence to Pieve di Buono, *Val Daone*. In the Austrian map, the boundary between Tyrol and Lombardy is made to cross the valley, so as to give Val di Fum to Italy, and Val Daone to Tyrol. This may have originated in some claim of the people of Val Saviore, a tributary of Val Camonica, mentioned in § 39, Rte. A, to the alpine pastures of the former valley; but, according to the Tyrolese herdsmen, who now exclusively use those pastures, no such claim is known in practice. The frontier here follows the watershed between the Chiese and the Oglio; and Austrian custom-house officials occasionally make an expedition into Val di Fum, to check attempts at smuggling.

The rocks on the W. side of the valley of the Chiese, between Storo and Pieve di Buono, consist of hard grits, sometimes passing into coarse conglomerate, of various shades of red, grey, and green, and in the lower part of Val Daone pass into a hard, fine-grained red schist, which has preserved very freshly the traces of glacial action. A rather rapid ascent leads from Pieve to the village of Daone, lying close to the opening of the valley; and a tolerable cart-track is carried for many miles along the N. side of the valley. Although there is no village, or even hamlet, above Daone, there are many scattered houses that are inhabited throughout the year. The scenery of Val Daone is of the highest order, gradually exchanging the softer and richer features of the lower valley for the extreme of ruggedness and wildness as it approaches the base of Monte del Castello. The cart-road has been constructed of late years in connection with large saw-mills, where 200 men are employed in summer, at a highly picturesque spot called *Boazze*, about 3 hrs. from Pieve di Buono. Here the

traveller fairly enters into the granitic region, announced to the eye by the bold forms of the mountains. The track passes near to one noble waterfall, and several others are seen higher up. Above Boazze the way is by a very rough path, sometimes not easily found, and mounts through a defile which has the appearance of being a cleft through the granitic mass that henceforward encloses the valley on both sides. The granite here is more varied in structure and appearance than in the Presanella range, some of it being finer in grain, and apparently containing less amphibolite. In one place the writer noticed a curious granitic conglomerate, including fragments of all sizes of different varieties of that rock, cemented together in a granitic matrix. In the way up the valley, the writer passed the recent remains of five considerable avalanches that had fallen during the winter or spring of 1863, bearing down large trees, huge blocks of stone, and masses of rubbish; and in one place above Boazze he traversed what appeared to be the fragments of a rather recent berg-fall from the Monte del Castello. In boggy places, in the hollows of the granite, *Carex pauciflora*, *C. limosa*, and some other interesting plants, were observed; but the flora is less varied than it usually is where the mountains are formed of sedimentary rocks. Not long after passing Boazze, the track crosses to the rt. bank of the Chiese, and thenceforward keeps to that side. Near the last ascent, where it passes close to a waterfall, and then attains the level of Val di Fum, a faint track turns to the l., mounts to a tarn called *Lago di Caf*, and then crosses the ridge that separates it from a larger mountain lake, called *Lago d'Arno*. The stream from that lake joins the main torrent of Val Savio near a hamlet called Isola, and by that way the traveller may enter Val Camonica, at Cedegolo, nearly 9 m. S. of Edolo.

The *Val di Fum* presents a striking contrast to Val Daone. Extensive

pastures spread over the nearly level and broad floor of the valley, and on the lower slopes of the mountains on either side. Some clumps of larches have survived the avalanches and the improvidence of the herdsmen, who have doubtless destroyed much timber for fuel. The scenery would be somewhat monotonous, if it were not for the very fine peak of the Caré Alto, lying somewhat E. of the head of the valley, which rivets the attention of the traveller. There are five chalets (*malghe*) in Val di Fum, and the writer passed the night at the highest of these, reached in about 4 hrs. from Boazze, inhabited during the summer by six or seven men and boys. No reliable information concerning the adjoining peaks or the passes leading into the neighbouring valleys was obtainable from these or other herdsmen lower down in the valley, who were also consulted, except the fact that there is a way to the W. into Val Savio without descending so low as the pass by the Lago d'Arno. By that way Messrs. Sedley, Taylor, and Montgomery entered the head of the valley in 1865, and in that way Cedegolo is easily reached in one day from Condino. On the following day the same travellers effected the first passage from Val di Fum to Pinzolo. Unfavourable weather made it impossible to fix the position of the neighbouring peaks, so that the exact course taken by them is uncertain. The head of Val di Fum is closed by two branches of the *Vedretta di Fum*, issuing from the same plateau, but divided by a massive island of rock, whose summit rises little, if at all, above the level of the plateau. Ascending by the l. side of the western branch of the glacier till they reached the point where it becomes an impassable ice-fall, they completed the ascent to the plateau by a couloir, and by steep slopes of ice and rock. It is uncertain whether they reached the head of the *Vedretta di Laris* by a gap in the still unexplored ridge connecting the Caré Alto with the *Monte Folletto* (11,169'), the *Corno di Cavento* (10,994'),

and the *Crozzon di Laris* (10,889'), which form the western boundary of that glacier. It is perhaps more probable that they took the easier course to Val di Genova through Val Fargorida, which may be reached by the *Passo dei Topeti*, noticed in Rte. B, or by the *Passo di Lares* (9,230'), lying farther S., and leading to the W. side of the Fargorida Glacier.

The writer believes that the upper plateau connecting the glaciers of Bedole and Adame is most easily reached from Val di Fum by the ridge dividing it from Val di Adame.

The herdsmen pointed out to the writer a pass on the E. side of Val di Fum, some way lower down than the highest malga, leading, as they said, either to Val Rendena by the Val di San Valentino, or to Val Breguzzo. After reconnoitring from the ridge W. of the malga, the writer preferred to attempt what seemed to be an easy snow or glacier pass, lying about due E. of the malga, but concealed from it by a projecting mass of the mountain which lies in the way. He was informed that the pass in question overlooked the head of Val di Borzago, which opens into Val Rendena at Pelugo, but that it was impossible to descend into the head of that valley, owing to the *vedretta* (glacier), which was impassable. Starting early next morning with a young man from Condino who knew nothing of the country, the writer reached the pass (about 9,300'), which he ventures to call *Passo di San Valentino*, in 2½ hrs. from the malga, without the slightest difficulty, taking a course by the S. side of the above-mentioned promontory. The descent on the E. side is into Val di San Valentino, as the writer suspected and afterwards ascertained. It was also free from difficulty, but whether over glacier or not it was impossible to say, as the snow lay deep on both sides. A rather steep barrier of rock was descended by keeping to the rt., and below this the snow extended down to a little tarn which was

almost concealed by ice and snow. Thence the way lay through a rocky valley, without the slightest trace of path, till the verge of a very steep barrier of rock was reached. The easiest way is probably by mounting a little to the l., and so avoiding the almost precipitous E. face of the barrier. The writer chose a couloir or chimney lying a little to the rt., which was rather troublesome from the masses of rotten snow that partly filled it. At the foot of this couloir is a small grove of birch, and on passing a torrent on the l. hand the first traces of man's presence were seen in the ruins of a shed and sheep-fold. Huge blocks with quite fresh fractures announced a recent berg-fall. Here a rough track on the l. bank of the torrent opportunely appeared, as it facilitated the descent of another steep barrier of rock. Here, in clefts close by the path, was found *Trientalis europea*, being the southernmost point at which that little northern flower, very rare in the Alps, has yet been observed. Before long the highest chalet (malga), not yet inhabited on 5th July, was attained. A tolerable path led down another fourth step in the floor of the valley, the rocks being now composed of mica-schist. The path crosses to the rt. bank of the torrent near a point where a lesser branch of the valley joins it from WSW. It may be that the track indicated on the Austrian map, which leads to the middle part of Val di Fum, passes that way, if it rest upon any other foundation than the reports of chamois-hunters, who may probably have effected the passage at various points in the ridge.

A pleasant walk led down the rt. bank; and the first inhabitant, after satisfying his curiosity as to the unexpected appearance of two strangers in such a place, kindly offered milk, polenta, and even coffee. The usual steep descent by a rough paved track finally led down to Villa, about 1 hr. above Tione (Rte. A.).]

## ROUTE D.

TIONE TO RIVA, ON THE LAKE OF  
GARDA.

Few things are more remarkable in the Italian valleys of Lombardy, Tyrol, and Venetia, than the talent for road-making, which seems innate amongst the population, and is developed wherever scope is given for its display. The great military roads made by the Austrian Government doubtless serves as models; but they have been equalled in many remote valleys by works originated by the communes, and carried out with scarcely any assistance from the Government. One such road is noticed in this Rte., and another in Rte. E. The new road, however, is a circuitous way to reach Riva from Tione, and the pedestrian may take a much shorter and very agreeable walk by Ballino.

1. *Carriage-road by the valley of the Sarca.* About 18 m. to Le Sarche; 15 m. thence to Riva. From the lower end of Val Rendena, near Tione, to the broad valley extending from the Lake of Dobolino to the head of the Lake of Garda, the Sarca flows through a cleft, or perhaps rather a series of clefts, through the jurassic and eocene rocks of the range that extends more or less continuously from the Mendola near Botzen to the neighbourhood of Salò. The successive gorges through which the river passes were always deemed so impassable, that the ancient bridle-track was carried at a great height over the mountains on either side, and long ascents and descents greatly increased the distance to be traversed. The new road, executed at the charge of the communes of the valley, is an admirable piece of engineering, and has been achieved at wonderfully little cost. It brings Val Rendena and the intermediate district into direct and easy communication with Trento and with Riva. A post-carriage runs daily between Tione and Le Sarche, where it meets the vehicles

plying on the high road between Riva and Trento. After descending from Tione to the bridge over the Arno, the road is carried for some miles through a rich and populous part of the valley on the S. side of the Sarca, till it enters the defile where it was formerly necessary to ascend to a great height above the l. bank of the river. The most remarkable part of the road is where it is carried across to the l. bank, and then returns a short distance farther to the S. side of the stream.

In one place a roof receives a little waterfall that otherwise would fall on the road, and in another a stream that bursts out from the rock is skilfully conducted by an interior channel till it can be allowed to escape. On high ground to the l., not seen from the road, is *Stenico*, one of the chief villages of Giudicaria, with an ancient castle, some Roman remains, and various memorials of the local mediæval history. An interesting walk from Stenico to Pinzolo by Val Dalcón is noticed in Rte. A. A little lower down the valley opens out, and a slight ascent to the rt. will enable the pedestrian who would reach Riva by a shorter way than the road to join the path by Ballino, described below. The valley again contracts, as the road, leaving to the rt. many villages and hamlets, enters a gorge leading to the Baths of *Comano*, near a village of the same name, where a rather large building receives patients during the summer. The water is tepid and tasteless, but is believed to be efficient in some internal complaints. About 3 m. from the Baths the traveller unexpectedly finds himself at the upper end of an extraordinarily deep and savage gorge through which the Sarca descends to the very deep valley through which it is to flow to the L. of Garda. The descent, though long, is now perfectly safe, and may be much shortened by a pedestrian. One portion of the way traversed by the old bridle-track bore the significant name, '*Passo della Morte.*' At *Le Sarche*, a hamlet with

a poor Inn, where an omelette and tolerable wine may be had, the traveller joins the high road from Trento to Riva, about 12 m. from the first, and 15 m. from the latter place. That road is described in § 57.

2. *By Ballino and the Lago di Tenno.* 5½ hrs.' walking.

Almost immediately after crossing the bridge over the Arno below Tione, the pedestrian bound for Riva turns to the rt., and follows a good country road to Bolleno, and thence to *Zuklo*. A very agreeable footpath mounts gently from that village, winding along the lower slopes of the mountain, and at last bears to the rt. and enters a hollow which leads in 2 hrs. from Tione to the *Duron Pass*, a low col separated by hills of no great height from the valley of the Sarca. Up to the summit, erratic blocks of granite, some rolled, some angular, are abundant. An easy and agreeable path leads to Rango. On reaching the brow of the hill, there is a fine view over a rich and populous plateau, drained by a stream that joins the Sarca about 2 m. above the Baths of Comano, and enclosed by mountains of bold and varied form. There are many tracks connecting the neighbouring villages, some of them passable for vehicles, and it is not easy to decide as to the shortest way to Ballino. It seems best to pass by Cavrasto, and then by country paths to descend to the stream from *Val Marza*, which has excavated for itself a rather deep channel, and then follow a track which gradually mounts above a marshy plain that extends southward towards the pass leading to Ballino. Peat is here extensively cut, and applied to some industrial uses. The walk is throughout very agreeable, but the most interesting portion is the descent towards Riva. *Ballino* lies on the S. side of a low pass, or gate in the hills, and a new road leads thence to Riva. The traveller, who knows that he has ascended but little above the level of the Sarca at Tione, and who forgets that the L. of Garda is less than 200 ft.

above the sea-level, is not prepared for the great and rapid fall towards the lower valley of the Sarca, which becomes apparent only after passing Tenno. On reaching the picturesque *Lago di Tenno*, the traveller should make a short détour in order to reach a favourable point beyond the southern end of the lake from which to enjoy the admirable view of the Lake of Garda, nowhere so well seen as from this side. Below Tenno the new road makes many zigzags, some of which may be cut short by following a rough paved track, and the road finally descends into the main valley about 2 m. from

*Riva* (Inn: Sole, good; Giardino, improved, cheaper), described in § 57. Travellers are cautioned against hiring charrs from the postmaster, who on false pretences extorts more than the tariff rate, while they may be hired for much less from other persons.

## ROUTE E.

LODRONE TO RIVA, BY VAL AMPOLA  
AND THE LAKE OF LEDRO.

Carriage-road—About 28 miles.

It has been seen in several of the preceding Rtes. that a traveller approaching the Italian Tyrol by the road through Val Sabbia (Rte. A), or by the mountain passes from Val Trompia or Val Camonica, will cross the Austrian frontier at the bridge of Lodrone. This is now a tolerably good road leading from that place to Riva, on the Lake of Garda, which for the exquisite beauty and variety of its scenery can scarcely be surpassed by any in the Alps. The road itself, and especially the descent to Riva, is a remarkable piece of engineering; and the more so as, like that noticed in the last work, it was accomplished by the almost unaided efforts of the country people.

Following the road from Lodrone up

the rt. bank of the Chiese, the traveller reaches in about 3 m. the turn leading by a bridge over the river to *Storo*, a large village with a fairly good but dear inn (*Cavallo Bianco*). This stands close to the junction with the Chiese of a torrent issuing from *Val Ampola*, a narrow lateral glen, or mere cleft in the limestone mountains. Through this the new road to Riva has been carried. It mounts at first about due E.; then, near the junction of a torrent from the S., turns NE., passing one of the small forts or block-houses erected by the Austrians at all points supposed to guard the approaches from Italy to the Valley of the Adige. This was taken in 1866 by the force under Garibaldi, one of the few successes achieved in that miserably ill-conducted expedition. Unless there be a recent change of system, travellers, and men of science should carefully avoid being seen to sketch or make notes of any description within sight of these forts.

After ascending for  $1\frac{1}{2}$  hr. from *Storo* between steep and high walls of limestone, the summit level is unexpectedly attained. The road issues from the cleft near a small shallow pool that sends its water through *Val Ampola* to the Chiese, and then passes along a marshy tract with no perceptible watershed till a stream begins to descend towards the E., and the *Val di Ledro* opens out in a wide basin enclosed between mountains of moderate height. Several villages are now traversed in rapid succession, in some of which the traveller who would explore the neighbourhood may find tolerable quarters. At *Tiarno di Sotto* the writer once lodged at the Osteria Degara, and had no cause for complaint; on another occasion he lunched at what appeared a decent country Inn on the N. side of the road, at *Pieve di Ledro*. Between these two villages the stream from *Val di Conzei* (Rte. F) enters the valley from the N. The village of *Pieve* is but  $\frac{1}{2}$  m. from the charming little *Lake of Ledro* (2,183').

a sheet of water nearly 2 m. long by 1 m. wide, surrounded by sloping meadows and wooded hills, backed by higher mountains to the S. In the heat of summer the difference of very nearly 2,000 ft. of height above the Lake of Garda gives a feeling of freshness that enhances the charm of this spot, which will doubtless become at some future time a place of much resort. The road is carried along the N. side of the lake, but there is a somewhat circuitous path by the opposite shore, and a track leads through a pretty wooded glen to a pass that crosses the frontier of Italy and descends to Tremosine, on the Lake of Garda. The lake and the plateau of *Val di Ledro* are drained by the *Ponal* torrent, which descends through a short ravine to the Lake of Garda. The road is carried along the northern slope above the *Ponal* torrent, descending rather rapidly for about  $3\frac{1}{2}$  m., and the traveller may fancy himself approaching the level of the lake, when he gains a first glimpse of its waters at a vast depth below him. Skilfully-conducted zigzags lead the road down a buttress of the mountain, but the descent stops short at a point which must be fully 700 ft. above the blue lake. Between the cleft through which the *Ponal* springs in a pretty waterfall to the lake, and the shore at Riva, extends for about  $1\frac{1}{2}$  m. a range of mural precipices, the highest, boldest, and most impracticable in appearance that rise above any of the alpine lakes. The road that descends along the face of this formidable wall of rock is in many places a mere notch cut into its face, and overhung in a somewhat threatening manner by impending masses above. At some points a tunnel has been carried through projecting buttresses, and a little Austrian fort is ready to close this approach to the head of the Lake of Garda. In passing along this remarkable road the traveller enjoys views of exquisite beauty, varying according to the hour of the day, but never more perfect than when

full moonlight is poured over the lake and the mountains. Among the few plants that cling to the rocks are seen *Mähringia Pona*, *Leontodon incanus*, *Piptatherum multiflorum*, and other rarities, along with the evergreen oak, here reduced to a bush, *Colutea arborescens*, and other southern shrubs.

Reference has been made in the preceding Rtes. to the remarkable distribution of erratic blocks of the granite of the Adamello group throughout the lower valleys of this district. The phenomenon is especially deserving of careful study in regard to the plateau of Ledro, lying as it does between the valleys of the Chiese and the Sarca. They are abundant on the plateau, rising to a few hundred feet above the Lake of Ledro, but do not extend into the Val di Conzei. The writer has been assured that they are found abundantly in the lateral valleys S. of the lake, and that a large deposit exists on a slope above the village of Pregassena, near the Italian frontier, S. of the Ponal. Several large blocks may also be seen in the bed of the torrent, descending through Val Ampola. Exact levelling, and a minute knowledge of the Adamello range, which may enable us to trace the origin of special varieties of the granite, are required to give a complete explanation of the mode in which the distribution has been effected.

### ROUTE F.

#### PIEVE DI LEDRO TO TIONE.

The pedestrian going from Pieve di Ledro to Tione has a choice of several interesting paths, though none of them is more beautiful than the road to Storo (Rte. E), and that leading thence by Condino and Pieve di Buono (Rte. A).

The easiest way is by a path that

mounts from Tiarno di Sopra to a depression in the range to the W., and then descends the steep side of the mountain to Condino. It is said that the distance from one village to the other may be traversed in 2 hrs. Another and somewhat higher pass connects Tiarno di Sotto with Pieve di Buono, but of this the writer has no information. A longer walk, especially interesting to the botanist, leads by the *Val di Conzei* to the *Gavardina Pass*. A cart-track leads from Pieve di Ledro to Lenzumo, the highest hamlet, and soon after crosses to the rt. bank of the torrent. For a considerable distance the path is carried under the shade of trees, and gradually becomes less distinct as it branches in various directions. A short cut may be made by a steep and rather rough way used by haycutters, and towards the top the way is along a steep slope, with the wooded glen on the traveller's rt. hand, at a considerable depth below him. Some projecting rocks on the ridge close to the pass produce several interesting plants, especially the extremely rare *Sarifraga Tombeana*, nearly allied to the rare *S. diapiensioides* of the Western Alps.  $3\frac{1}{2}$  or 4 hrs. may be allowed to reach the pass. The descent through the *Val Gavardina* is easy, and in less than 2 hrs. the traveller will enter the short valley through which the Arno flows to meet the Sarca below Tione. It is not necessary to cross the valley in order to join the high road at Bondo, as there is a good path along the SE. side, but in either case a rather long descent, and corresponding ascent, are needed to reach Tione (Rte. A). If pressed for time the traveller may, on the same day, go on to Pinzolo.



## ROUTE G.

STORO TO TOSCOLANO ON THE LAKE  
OF GARDA, BY VAL VESTINO.

The way here suggested for reaching the S. end of the Lake of Garda from the valley of the Chiese may not, although it offers some fine scenery, be of sufficient interest for the unscientific traveller; but it has especial attractions for the botanist, as there are few stations in the Alps so productive of rare plants as the Val Vestino, here noticed, and the Monte Tombea at its head. The way is rather long, and a traveller wishing to have full time for examining the mountain must content himself with rough but bearable quarters in the village of Magasa.

As mentioned in Rte. A, the head of Val Vestino may be approached from Bondone, a village overlooking the Lake of Idro; but there is a more interesting way through *Val Lorina*, a narrow and deep glen that enters Val Ampola close to the new fort that guards the defile (Rte. E). The scenery of Val Lorina is of the wildest kind. For a considerable distance the way lies at the bottom of the very deep cleft through which the torrent forces its way. This is fortunately a slender stream, which is crossed about thirty times, as either bank becomes impassable, but after heavy rain the passage is impracticable, and communication is then interrupted with the few herdsmen who resort in summer to the head of the valley. Several of the rarest plants noticed below are found here, as well as in Val Vestino. After passing one or two chalets, a tolerable path mounts steeply towards a pass by which the traveller could descend to Tremosine on the Lake of Garda; and by bearing somewhat to the rt., between a low summit called Caplone and the higher ridge of the Tombea, he could descend at once to Magasa at the head of Val Vestino. That would be the most direct way to Toscolano, but would not be suitable for the

botanist, whose chief harvest is on the ridge of the Tombea. His course is by a slightly-marked track that winds along the N. face of the mountain, until he finds himself overlooking another branch of Val Lorina. That would seem to have been the more direct course for reaching the point at which he aims, but the rocks are so extremely steep that much time would be lost in attempting to mount that way. Ascending by some projecting rocks that are covered with the rarest plants, he reaches a chalet (malga) in a little green basin, a short way below the highest ridge of the mountain. The *Monte Tombea* is probably about 6,800 ft. in height, and as it slightly overlooks the nearer summits it commands an extensive view, in which one ridge of Alps just overtops the nearer one, but minute local knowledge would be needed to distinguish accurately the details. The following are among the very interesting plants found on the mountain, most of them on rocks between 5,000 ft. and the top: *Ranunculus Bertolonii* (crenatus?), *Capsella pauciflora*, *Viola heterophylla*, *Silene Elizabethæ*, *Mahringia glaucovirens*, *Saxifraga arachnoides*, *Laserpitium nitidum*, *Scabiosa vestina*, *Rhaponticum scariosum*, *Gentiana utriculosa*, *Pæderota bonarota*, *Primula spectabilis*, *Daphne rupestris*, and *Sesleria microcephala* (?). In descending it would be easy to join the track from Val Bondone to Magasa, but the botanist will prefer to give some additional time to the examination of the southern face of the mountain.

On the E. side of the Tombea, the frontier between Tyrol and Lombardy is to some extent a natural boundary, as the streams flowing to Val di Ledro and Val Ampola are Tyrolese, and those running SE. towards the L. of Garda are given to Lombardy. The S. side of the Tombea, and the head of the Val Toscolano belong, however, to Tyrol. The Tyrolese portion of the valley is called *Val Vestino*. It is, for so secluded a district, very populous, com-

prising seven or eight villages, and a good deal of arable land, extending into several short branches or recesses in the mountains. In addition to several of the plants of the Tombea which descend into the head of the valley, there have been found here *Mulabaila Hacquetii*, *Pedicularis acaulis*, and other rarities. Near the frontier, where the path enters Val Toscolano, is (?) the western limit of the pretty *Adenophora suaveolens*. Unlike Val Vestino, the *Val Toscolano* is almost uninhabited, but there are some small hamlets on the slopes of the mountains, reached by paths that diverge from the main valley. The scenery is pleasing, but not remarkable, except at the lower end, where the hold summit of Monte Pizzocolo has a fine effect. The path keeps most of the way to the l. bank, and the first view of the Lake of Garda is gained near Gaino. A path leads from that village through a considerable grove of fine laurel (or bay) trees, which are here used to produce an oil used for some manufacturing purposes.

*Toscolano*, with a rather humble, but not bad Inn, kept by Paolina, is described in § 57.

Travellers who wish to visit the Tombea and Val Vestino, without crossing the Italian frontier, may best go by Bondone, and return by Val Lorina to Storo. The Tombea may also be approached from Val di Ledro by a very agreeable but somewhat laborious route, in great part along the mountain ridge that here forms the frontier between Tyrol and Lombardy, passing over, or near to, the summit of Monte Tremalzo.

#### ROUTE H.

PINZOLO TO RIVA, BY THE BOCCA DI BRENTA, AND MOLVENO.

In several of the preceding routes, reference has been made to a consider-

able mountain-mass, extending on the E. side of Val Rendena, for which the collective name *Brenta Alta* is here adopted. It is composed of a brittle dolomitic limestone (much less crystalline in texture than the true dolomite of the Venetian and Fassa Alps), which by exposure to the weather assumes various tints, from pale grey to rich pink and murky red. By its extraordinary boldness and singularity of form, this range fascinates all mountaineers who approach it, yet it is but very lately that it has been even partially explored. It may best be described as an irregular group of towers of rock, varying in height from 9,500 to nearly 11,000 ft., that rise out of a huge broken mass of limestone, which is penetrated in some directions by deep valleys and recesses. As a general rule, the towers are isolated, showing on one or more sides absolutely vertical faces of rock, and each is capped by a covering of névé. At the E. foot of the mountain is the picturesque *Lake of Molveno*, a spot strangely overlooked by travellers, but which, if in Switzerland, would doubtless be the frequented resort of tourists throughout the summer. The little village of Molveno, at the head of the lake, is connected with Pinzolo in Val Rendena by an extremely interesting pass — the Bocca di Brenta — whose name was strangely misapplied by the Austrian engineers to the highest summit of the mountain. The pass, with the valleys leading to it on either side, divide the Brenta Alta into two portions, of which the larger, including the highest peak, lies S. of the pass. The engineers engaged on the Austrian map have given the name Cima Tosa to the highest of the summits N. of the pass (10,324' Austr. Eng.); whereas the name Tosa (signifying Jungfrau, or virgin) is unknown on the W. side of the mountain, and is universally applied on the Molveno side to the highest summit, misnamed on the Austrian map Bocca di Brenta.

The way from Pinzolo to Molveno lies through Val Nambino. The track to La Madonna di Campiglio is followed for some way beyond the chapel of St. Antonio (Route A), beyond which a rough cart-track has been carried to some sawmills standing opposite the opening of *Val Brenta*,  $\frac{1}{4}$  hr. from Pinzolo. After crossing the main torrent, the path mounts through the forest on the l. bank of the stream from Val Brenta, till it crosses to the opposite bank at the lower end of a level tract of meadow whereon stand some sheds. Thenceforward the way lies on the proper rt., or NE. side of the valley; unless a *détour* be made to reach a solitary *casera* standing on a high shelf above the steep barrier of rock that stretches across the glen. This is reached by a steep narrow track easily missed, that climbs the slope above the l. bank of the torrent, reaching the summit of the barrier just where it abuts against the mountain. Here, as in most of the *châlets* of the limestone Alps, the traveller may feast on milk and excellent butter. Above the rocky barrier the scenery assumes a wild and fantastic aspect, which recalls, without closely resembling, that of the better known Dolomite Alps. The stream alternately sinks into the ground and reappears further on, till it is finally lost to view, and the upper region of the mountain is absolutely devoid of water. Some way above the *châlet* the glen forks, and the true course is that lying to the l. as the traveller ascends. The glen becomes a mere cleft leading up to a long snow couloir, at the head of which is seen the

*Bocca di Brenta* (8,502? J.B.), a true gateway, about 15 ft. wide, between two pinnacles of limestone. After a short descent over rough rocks, the way turns abruptly to the l. into the wild upland glen that leads down to the head of *Val delle Seghe*. In approaching the pass from the Molveno side, it is not seen until the traveller has come close below it. The much

broader gap seen in front during the ascent on that side leads to the base of the Tosa, or highest peak of the mountain. For a considerable distance the way down the glen is very rough and trackless, though not at all steep, until the traveller reaches a pasture, and a hut locally called *Malga dei Vitelli* (about 6,550'). Henceforward a faintly marked track leads the traveller over rough ground, which becomes doubly intricate when brushwood begins to cover the surface, and conceal the numerous holes and chinks in the rocks. Before long he finds himself at a great height above the deep and narrow *Val delle Seghe*, through which lies the way to Molveno. The scenery here reaches the climax of fantastic beauty and strangeness. The pinnacles and towers of rock that rise above the lower belt of pine and beech forest rival each other in boldness of form, some actually overhanging their bases. A very rough descent, where local knowledge in the guide will save some trouble to the traveller, leads down to the bed of the valley, and the remainder of the way lies through the dense forest that still clothes its recesses, though the wood-cutter's axe has begun to devastate it. The *Val delle Seghe* takes its name from the sawmills worked near the point where it opens on the Lake of Molveno. Turning to the l., a few minutes' walk leads in about 8 hrs. from Pinzolo to the small and poor village of

*Molveno* (3,050?), standing on rising ground above the N. end of the lake. Rough but tolerable quarters are found at Giacomo's Osteria near the church. Fish from the lake, and a fowl may sometimes be had, but butcher's meat is not found in this remote place, which may at some not distant day be frequented by tourists. The charming little Lake of Molveno, rather more than 3 m. in length, and about 3,000 ft. above the sea-level, lies between the main mass of the Brenta Alta and the ridge of *Monte Guzza* (about 6,500'), which

divides the valley of Molveno from the Adige and the road from Vezzano to Trento.

[From Molveno an agreeable path leads along the Bior torrent to *Andolo*, a hamlet near a little lake, and then, over a low pass, into *Val Sporreggio*, a tributary of Val di Non (§ 37, Rte. B). The valley contains two ruined castles of the Spaur family (who derive their origin and their name from hence), and the villages *Spor Maggiore* and *Spor Minore*, the first on the rt., the second on the l. bank of the torrent. The Val di Non is entered at the defile of *Rocchetta*. This path offers a convenient and agreeable way for the pedestrian bound for the Val di Non, who would avoid the hot valley of the Adige.]

There is a choice between three different ways connecting Molveno with Riva. In approaching the lake from Riva or Trent the most interesting way in clear weather is to cross the ridge of Monte Gazza from Vezzano. It is a broad-topped rounded ridge, nearly bare of timber on both sides, and the walk is uninteresting until, on approaching the verge of the steep western face, the exquisitely blue lake is seen at a great depth below, backed by the grand crags and towers of the Brenta Alta, whose topography can be studied better from hence than from any other point of view. The shortest track down the steep face of the ridge leading to Molveno is easily missed without a local guide. In going from Molveno the most agreeable way is that by Ranzo. A cart-track for the conveyance of timber is carried along the W. bank of the lake, but to enjoy the scenery the traveller should either follow the much rougher and little-used path above the E. shore, or hire a boat at Molveno. On reaching the southern end, he will be surprised to find that no stream issues from the lake. There is probably none other in the Alps of nearly equal dimensions that is drained altogether by subterranean channels. Whether, as the writer supposed on a

first visit, the original course of the stream has been covered over by a great berg-fall, is somewhat uncertain. After crossing a level stony tract, where a spring of deliciously cold water bursts out in one place near the path, the verge of the short glen running down to the valley of the Sarca is attained. The first houses are at a spot called *Le Mulina*, where the stream from the lake bursts out from a cleft in the mountain and turns several mills. In going to Ranzo, the traveller does not descend to *Le Mulina*, but bears to the left, and follows a track along the slope of the mountain, till he approaches the point where it forms a sharp angle overlooking the deep defile through which the Sarca descends to *Le Sarche*. In following the road from that place to *Tione* (Rte. D), and viewing the precipitous face of the mountain that almost overhangs the defile, a nearly horizontal ledge—in appearance a mere line—is seen to traverse the rocks. This ledge affords a perfectly easy and safe path, two or three ft. in width, which leads to the village of *Ranzo*, standing on the summit of a steep and lofty promontory that on one side overlooks the defile of the Sarca, and on the other the Lake of Toblino. A path leads thence down to Castel Toblino on the latter lake, described in Chap. xvi.

A course to *Le Sarche*, rather shorter than that by Ranzo, is to descend to *Le Mulina*. The torrent flows from thence to join the Sarca in the impassable defile above referred to; but by keeping a track above the rt. bank, for some way nearly at a level, there is no difficulty in descending to a plank bridge just above the defile, by which the *Tione* road is reached about 3 m. above *Le Sarche*.

The first ascent of *La Tosa*, or highest peak of the Brenta Alta, was made in 1865 by Mr. W. E. Forster and the writer, with a young man named Matteo Nicolsi of Molveno, who is a good cragsman and has minute local knowledge of some parts of the mountain, but has no mountaineering instinct, and is ut-

terly unaccustomed to ice-work. About 1 m. S. of the opening of Val delle Seghe is a deep recess running into the central part of the Brenta range. There is a herdsman's hut, or *casera*, on a shelf of rock near the head of this recess. This may be reached by a cattle track that ascends over much rough ground from the level of the lake, but it is a rather shorter course to mount at first to a large *casera*, seen from Molveno, that stands on a shoulder of the mountain about 1600 ft. above the lake, and then to ascend gradually in a slanting direction till you reach a slope of *débris* running up along the base of a range of vertical rocks, at no great distance from the first-named *casera*. After climbing a steep rocky slope, immediately above the *casera*, it is necessary to keep towards a gap on the rt. of a projecting rock, avoiding a faintly marked sheep track that here bears to the l. On reaching the gap the traveller is on the verge of a deep rocky hollow, which would contain a lake if the rock were not everywhere pierced by internal fissures. The way is over very rough ground to the l. of the hollow, and then up bare slopes of rock whose rifts are full of snow. During the ascent the Tosa is full in view. On this side it appears more massive and less tower-like than from other points of view. At its base are two glaciers. The smaller one on the N. side might be reached by either of two gaps, leading very close to the summit of the Bocca di Brenta; but the highest

point lies a good way S., and rises immediately above the larger glacier lying at the E. base of the peak. As seen by the writer, the nearly perpendicular wall of rock guarding the base of the peak is quite unbroken, but there are some places where the vertical part does not rise more than 100 or 150 feet above the edge of the glacier. At such a spot a narrow cleft or chimney was found, by which the steepest part of the ascent was surmounted, and the remainder of the way was not difficult. The earlier measurements of this peak were much under the truth. The yet unpublished Government Survey of Tyrol attributes to it the height 10,771 ft., but the writer is persuaded that even this is somewhat short of the truth. His observations give for the summit a height of at least 7,800 above Molveno, or not less than 10,850 ft. above the sea. In any case it ranks beside the Primiero peaks, leaving to the Marmolata its pre-eminence among the limestone summits of the Eastern Alps.

The second ascent was made by Mr. Tuckett in 1867, with Melchior Anderegk and Bonifazio Nicolosi. He reports favourably of the latter, whose elder brother, Matteo, is gone to live in Bozen. Mr. Tuckett ascertained that the true Cima Tosa surpasses the second peak of this group (Cima Tosa of Austrian map), called by B. Nicolosi Cima di Mezzodì, by not more than 100 ft.

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